



ENVIRONMENTAL ASSESSMENT

MESQUITE COMMUNICATIONS TOWER

Submitted to:
United States Department of the Interior
BUREAU OF LAND MANAGEMENT
Las Vegas Field Office
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ENVIRONMENTAL ASSESSMENT MESQUITE COMMUNICATIONS SITE

1.0 PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1 Introduction

This environmental assessment (EA) analyzes impacts to the environment that would result from the construction and operation of a multi-use communication site by Interconnect Towers L.L.C. (ICT) on Mormon Mountain Mesa south of Jack's Pockets, in Clark County, Nevada (Figure 1). The document serves as a vehicle for interdisciplinary review of the proposal, identifies appropriate mitigation measures and facilitates the preparation of an Environmental Impact Statement, should one be determined necessary for this proposal. The document has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations 1500-1508), and the Bureau of Land Management (BLM) NEPA Handbook (BLM Manual H-1790-1).

The proposed communications site and associated tower would be located immediately adjacent to the southeastern boundary of the Mormon Mountain Wilderness. However, this action would not be precedent setting, as other communication tower sites have been regionally authorized closely adjacent to wilderness, such as the Brown Buttes and Blind Hills Communications Sites in California, located adjacent to the Trilobite and Clipper Mountain Wildernesses respectively (BLM 2000).

1.2 Purpose and Need

The proposed communications facility would be strategically located to allow for the installation of up to eight broadcast transmitting systems, as well as numerous other wireless carrier systems. The selected tower location adjacent to Interstate Highway 15 was carefully chosen for its line-of-sight transmission and ability to provide city-grade coverage to Bunkerville, Moapa Valley, Mesquite, Logandale and Overton, Nevada (Figure 2). Other potential sites, including areas located to the east/west and closer to Interstate Highway 15 (I-15) were evaluated. However, these localities were found inadequate to meet the needs associated with all eight broadcast transmitting systems in providing city-grade coverage to these communities.

The 2000-foot height of the communication tower would allow for multiple tenants to locate their antennae outside of designated wilderness above the minimum height required to allow line-of-sight signals. The latter line-of-sight signal need is required by the Federal Communications Commission (FCC). The selected location is also strategically located to provide for the buffer zone separating this tower from other existing tower broadcasters in the vicinity, fulfilling another FCC requirement. No other single site localities or existing broadcast facilities can provide eight channel system services to all these communities without multiple individual towers.

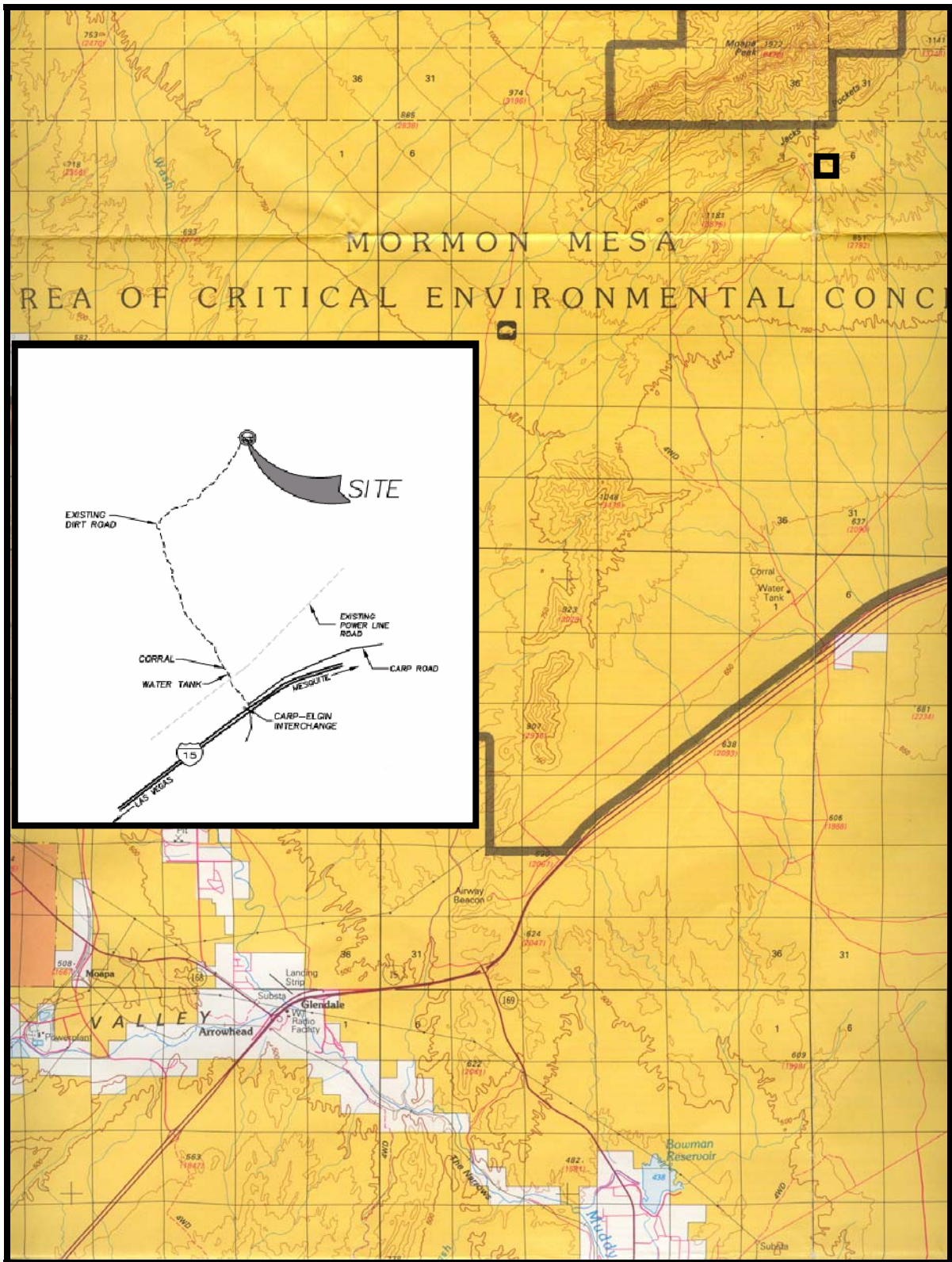


Figure 1. Mesquite Communications Site  Proposed by InterConnect Towers L.L.C. At Township 13 South, Range 68 East, Northwest-Southwest Quarter Section 6, Mount Diablo Base Meridian, Clark County, Nevada).

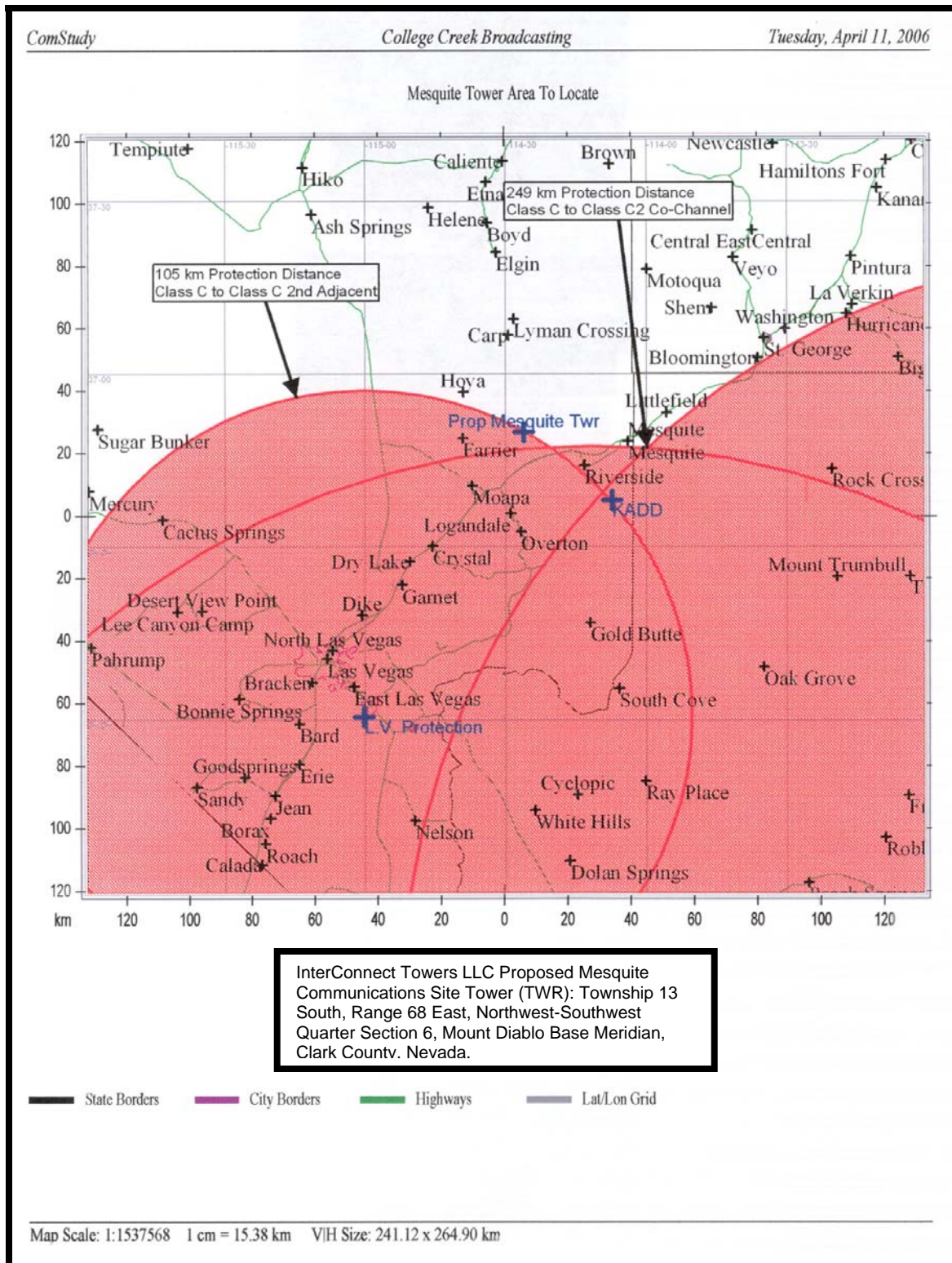


Figure 2. Communications Study Map Detailing FM Station Separation and Coverage Needs for the Proposed Mesquite Communications Site (Township 13 South, Range 68 East, Northwest-Southwest Quarter Section 6, Mount Diablo Base Meridian, Clark County, Nevada).

1.3 Conformity with Land Use Plans

The Proposed Action is in conformance with Federal regulations and BLM policies. The Las Vegas District Resource Management Plan (RMP), adopted by the BLM in 1998, provides the framework for managing public lands affected by this proposal.

Although the proposed action is not specifically identified in the Las Vegas District RMP, it is consistent with that document. An objective for communications site management outlined in this RMP includes the prevention of scattered single user site proliferation through the use of multi-user facilities. An approved site management plan is required for authorization of new communications site rights-of way and has been submitted for approval concurrent with this document. Per the RMP, placement of such communication sites is expected to occur along interstate highway transportation corridors.

The Proposed Action would be located in the Mormon Mesa Area of Critical Environmental Concern (ACEC), designated in the Las Vegas RMP for desert tortoise (*Gopherus agassizii*) values and recovery purposes. A general right-of-way avoidance has been prescribed for all ACECs addressed by this RMP, but the agency's discretion under the Federal Land Policy and Management Act to authorize new right-of ways in specific instances has been retained. In light of the proposed action's purpose and need, project design and mitigation to be applied, the BLM has determined that communications site right-of-way authorization in this locale could be considered within the framework of the existing RMP. Measures have been incorporated to ensure desert tortoise protection, as well as promote species recovery, that conforms to direction specified in the Clark County Multiple Species Habitat Conservation Plan (MSHCP).

The Proposed Action would also be located in a RMP-designated Visual Resource Management (VRM) Class III area visible from I-15. Project design features and specific mitigation have been incorporated to limit visual resource impacts so that the proposed facility does not "attract or focus attention of the casual viewer" from the highway view-shed. Similarly, the Proposed Action would be located away from the immediate vicinity of a popular trailhead accessing the Mormon Mountains Wilderness (Figure 3), to minimize visual and recreational experience resource impacts in this considered vicinity.

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 Proposed Action

InterConnect Towers, L.L.C. (ICT) has proposed the Mesquite Communication Site Project for public lands situated eight miles north of Interstate Highway 15, and ten air miles northeast of Glendale, Nevada. The site's legal description is Township 13 South, Range 68 East, Northwest-Southwest Quarter Section 6, Mount Diablo Base Meridian, in Clark County, Nevada. Preliminary geodetic coordinates for the proposed facility are latitude: 36°49' 53" (NAD 83) and longitude: -114°26' 13" (NAD 83), at an elevation +/- 3,049 feet above sea level.



The Proposed Action would include installation of a 2000-foot height, 3 guy-wire, anchored communication site tower (Figure 4) and chain link-fenced facility. Guy wires would extend out from the concrete-based tower a total of 1,100 feet. The facility and anchored tower would involve the construction of one gated permanent and three temporary site access roads. The project would also entail construction of two 20 X 40-foot concrete block shelter buildings and placement of one 1000-gallon diesel fuel tank on a concrete catch-basin pad. An 8.0 mile-length subsurface power-line would provide primary power for the facility and one 500-kw backup diesel generator (Figure 5) would provide secondary power.

Site installation, carrier tenant occupancy and Project maintenance would be approved under a communications site right-of-way lease. ICT has requested this right-of-way and lease from the BLM's Las Vegas, Nevada Field Office in order to:

- 1) Use an existing, northwestward-tending, un-surfaced vehicle route of approximately 8.0 mile-length on public lands (legal description: Township 14 South, Range 68 East, Section 7, Mount Diablo Base Meridian; Township 14 South, Range 67 East, Section 1, Mount Diablo Base Meridian; Township 13 South, Range 67 East, Sections 36/35/26/23/14/13/12/1, Mount Diablo Base Meridian; Clark County, Nevada). This road would be used for project material transport and proposed site access by ICT, as well as their contractors/tenants.

Vehicle travel in these instances would begin at Exit 100 on the west side of Interstate Highway 15, at an existing vehicle turn-around area (legal description: Township 14 South; Range 68 East; Northeast, Northeast Quarter Section 7; Mount Diablo Base Meridian; Clark County, Nevada). Such vehicle use would end near the northern terminus of the above road, but southeast of the actual Mormon Mountains Wilderness Trailhead (specifically: Township 13 South, Range 67 East, Northeast, Southeast Quarter Section 1, Mount Diablo Base Meridian, Clark County, Nevada).

From here, a new road would be constructed eastward to access the proposed Mesquite Communication Site area at the base the base of the Mormon Mountains (legal description: Township 13 South, Range 68 East, Northwest-Southwest Quarter Section 6, Mount Diablo Base Meridian, Clark County, Nevada). The existing road, together with the constructed road, would be used for equipment/material transport necessary for proposed site installation work and general site access.

A 300 x 300 feet area in the existing Interstate 15 (I-15) Exit 100 turn-around locale would be used for initial equipment, materials and tower component unloading, following acquisition of an applicable Nevada Department of Transportation permit. Several existing soil disturbance areas, jointly identified by ICT and the BLM along the proposed access route, would also be used for project vehicle pullout areas during material transport.

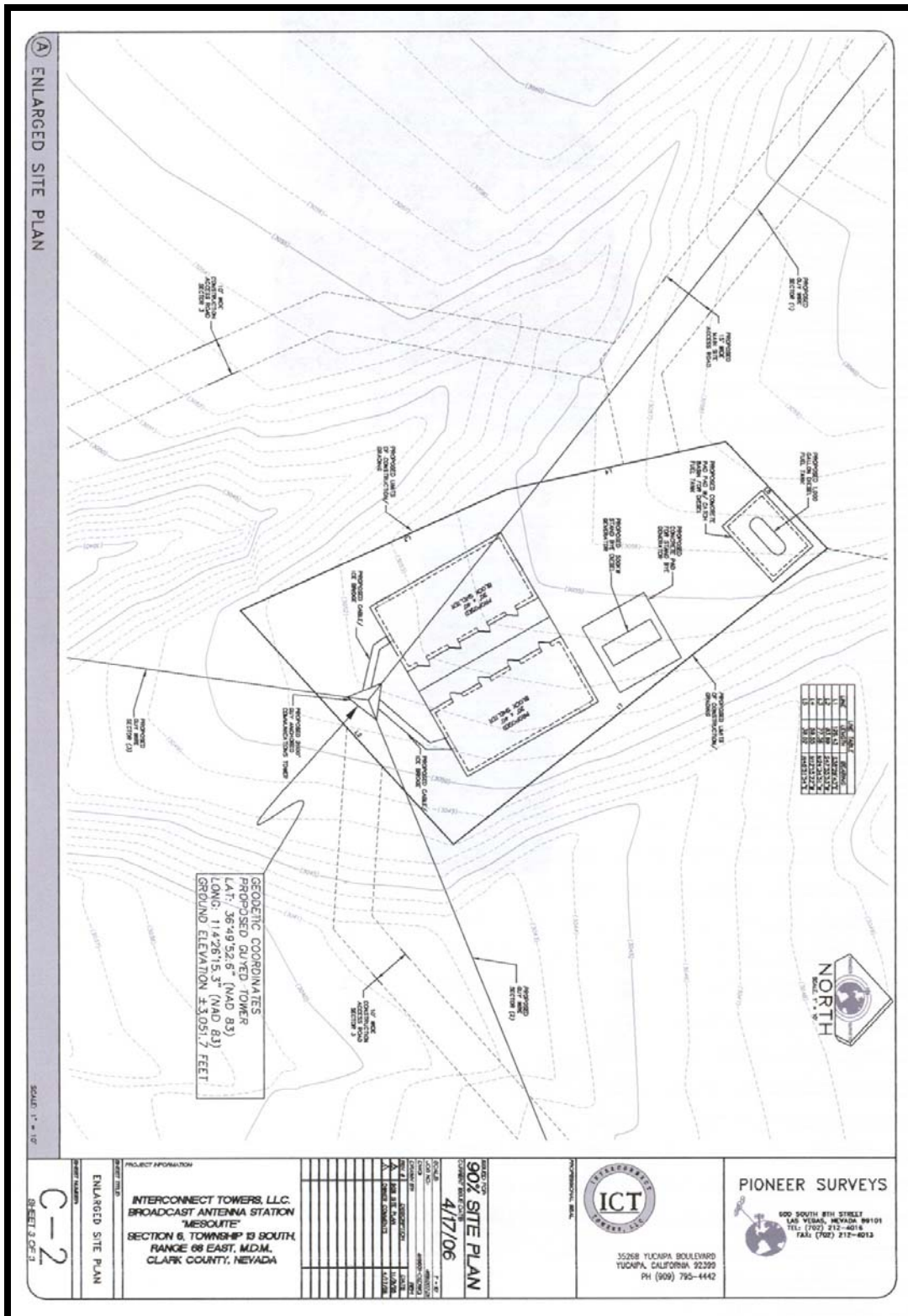


Figure 5. Site Plan for Proposed Mesquite Communications Facility (Township 13 South, Range 68 East, Northwest-Southwest Quarter Section 6, Mount Diablo Base Meridian, Clark County, Nevada).

- 2) Install a subsurface cable power-line within the centerline of the existing roadway identified above, in order to provide primary power for the proposed communications site facility. It was acknowledged that this action would be addressed under a separate public lands right-of-way application.

This proposed power-line would be connected to the existing power transmission line located on the east side (north-bound lane) of I-15. Directional boring under I-15 would be used to connect this proposed power-line to the existing transmission line. Trenching/cable burial equipment use and potentially drill and blast work in hard soil areas would be used to install this subsurface power-line at a uniform 48 inch-subsurface depth.

Proposed power-line installation activities are anticipated to span an estimated nine-twelve months. Disturbed soil surface areas would be stabilized through the use of BLM-approved wet suppression and gravelling techniques to minimize fugitive dust emissions during installation. Caution would be exercised in power-line cabling above the existing Kern River gas pipeline, located four miles west of I-15.

- 3) Construct one permanent, 1400-foot length, 14-foot width, eastward-tending vehicle access route beginning near the terminus of the existing road, at the base of the Mormon Mountains (legal description: Township 13 South, Range 67 East, Northeast-Southeast Quarter Section 1; and Township 13 South, Range 68 East, Northwest-Southwest Section 6; Mount Diablo Base Meridian, in Clark County, Nevada). This proposed new road would provide vehicular access to the proposed communications site tower pad, where secondary work staging would occur. Three temporary, 1400-foot length, 10-foot width vehicle access routes would be constructed to access the proposed tower guy-anchor points, once the tower pad was graded.

Proposed route construction would involve leveling of a soil area across the slope, 20 to 40 feet upslope and/or down-slope from the identified centerline of the proposed permanent access route. This would result in a level roadway necessary for the transport of cranes, equipment and communications site tower components. All road work would be accomplished without substantially altering wash banks or beds, or diverting any natural drainage course. No physical road improvements, i.e. culverts, would be installed at this time and the permanent access road would be gated.

Initial equipment staging would occur within the existing roadway in a manner designed not to impede vehicle travel to the wilderness trailhead. Equipment staging would occur from this locale, as well as from the proposed tower/facility pad, once constructed. Roads proposed for construction would require the capability to support large vehicle and crane travel. The existing access road would provide for both initial communication site installation and future facility maintenance.

Shrubs grubbed from the permanent access road and tower pad impact footprint would be salvaged whole, stored onsite during construction activities, and planted in the post-installation phase of the project.

This “vertical mulching” technique (i.e., horizontal/vertical planting of shrub skeletons in disturbed surface areas) would be implemented following construction work around the perimeter of the proposed facility, to minimize visual intrusions on the landscape. All cacti would be salvaged from the access road and tower pad impact footprint areas, stored onsite and used in final site reclamation work in combination with the “vertical mulching” revegetation technique.

Installation of proposed tower guy-anchors would involve cross-country travel on temporary access roads without prior bulldozer “blading” and shrub excavation. These “two-track” site installation roads would be reclaimed with raking as well as placement of onsite boulders/rocks, “vertical mulching” material and salvaged cactus.

- 4) ICT would then operate and maintain the installed Mesquite Communication Site with a proposed 2000-foot height tower (Figure 3), one 1000-gallon diesel fuel tank situated on a catch-basin concrete pad and one 500-KiloWatt diesel generator. Two 20 X 40-foot concrete block buildings, fencing and a gate for the permanent access road (Figure 4) would also be constructed.

General equipment maintenance would not be performed at the proposed Mesquite Communication Site. Re-fueling of construction vehicles and equipment may occasionally occur at this location through the use of a pickup truck-mounted fuel tank. Appropriate spill containment material would be kept onsite during both the communications site installation/reclamation efforts and subsequent operations of the facility. All fuels and other materials used would be contained within the construction vehicles or associated equipment.

Construction vehicles stored overnight would be free of leaking oil, gas, lubricants, or other such chemicals. All project equipment would have apparatus to immediately initiate petroleum spill control. All project personnel are to be instructed on how to properly use this equipment. If leaks were detected then clean-up measures and agency reporting would be implemented. The area beneath the vehicle would be covered with a plastic tarp or similar non-porous material as an immediate, albeit temporary, solution to preclude further soil contamination. Final remediation of such spills would be determined by BLM. In addition, prior to final mobilization, all construction equipment and vehicles would be washed to preclude the potential transport of non-native weed seed onto public lands.

ICT and its contractors would ensure that all trash and construction related debris was placed within containers that have a self-closing and/or locking lid. These containers would be emptied on an as needed basis by a licensed contractor. Every effort would be made to limit the attractiveness of the construction area/access roads to human-subsidized scavengers, such as the common raven (*Corvus corax*). Other measures to control trash and ensure that health standards are met would also be implemented. Work areas would be policed daily to prevent construction debris and trash from blowing off the site.

Portable toilets would be properly maintained and located within a convenient, un-vegetated level area, in the confines of surface use areas requested for approval at least 100 feet from identified sensitive areas. Sanitary waste from the portable toilet would be collected by a licensed contractor.

ICT and its contractors would make every effort to avoid starting fires along the proposed access roads and project site. The following practices would be followed:

- Flammable and/or otherwise hazardous materials would be properly stored in approved containers with construction vehicles or equipment;
 - Open fires and fires in barrels would not be allowed on the project site;
 - Machinery and roadway equipment shall be equipped with guards and spark arrestors which would be inspected daily to insure that they are functioning; and
 - Fire extinguishers would be carried on all project vehicles.
- 5) Qualified Biological Resource Monitors would be employed by ICT to ensure a minimization of resource damage and public land visitor use impact during installation, as well as to ensure compliance with BLM-issued Conditions of Approval. All involved project personnel would be briefed on desert tortoise and critical habitat constraints. Each piece of heavy equipment simultaneously traversing habitat in the project area would be assigned a Biological Resource/Authorized Conditions of Approval Compliance Monitor. Weekly progress reports would be submitted to the BLM by these contracted Biological Resource/Condition Compliance Monitors to ensure compliance with BLM Authorization stipulations. No helicopters would be used in site installation work.

2.1.1 Construction Activities

Initial construction work would entail the following activities performed by ICT and its contractors:

- Pre-construction resource surveys performed by qualified specialists.
- Implementation of an Employee Environmental Awareness Program.
- Staking and flagging of 3 temporary and 1 permanent vehicle access routes and associated equipment/material unloading areas.
- Secured authorization for grading and preparation of the proposed Mesquite Communication Site tower pad, including use of equipment unloading areas.

- Relocation of any sensitive plant species (i.e., cacti) from within the authorized communication site impact footprint by qualified personnel.

Grading of the Mesquite Communication Site pad would entail the use of a CD-6 bulldozer, a 140-H motor grader, a 966 front-end loader, a standard grade back-hoe, and four operators. Temporary roads to access communications tower guy anchor points would be constructed using the 966 front-end loader. The proposed communication site facility footprint where the building pad would be located would encompass a 100 X 100 feet surface area.

Staking/flagging of vehicle access and equipment unloading areas would be placed at no less than 100-feet apart on either side of the access routes, to designate the absolute path of vehicle travel. Unloading of equipment and materials, conformance with staked use area allowances, as well as construction work itself, would be overseen by a qualified Resource Monitor. This individual would be responsible for ensuring work progresses in compliance with conditions of approval and protection measures, performing necessary clearance surveys ahead of the site construction crew.

Movement of tower equipment would proceed onto the proposed Mesquite Communication Site in 20,000 pound increments upon tractor trailers, on the constructed vehicle access route to the proposed communications tower pad. All stakes and flagging would be removed upon the completion of construction. It is estimated that a total of three-six weeks will be needed to complete all proposed Phase I work.

Phase II work would support the installation of an underground power-line from the existing transmission line located immediately east of I-15 directly to the proposed communications facility, within the centerline of the existing road leading to the proposed communications site. This subsurface power-line would be installed beneath the highway with a commonly used earth-boring technique. Phase II work is estimated to take nine-twelve months to complete. This phase would also involve the construction of two BLM-approved buildings and a communications tower at the proposed Mesquite Communication Site-pad.

The excavation of building pads, setting of guy-anchor points, and construction of a tower pedestal would be primary construction objectives. Construction would necessitate the use of four to six personnel, one bulldozer, one soil loader, one backhoe, one water trailer, up to six pickup trucks, and a jackhammer rig. Building construction activities are anticipated to be completed within a 6-week period.

Once the construction sites have been excavated, the building pads, guy anchors, and pedestal would then be completed by pouring approximately 600 cubic yards of concrete. Upon completing concrete foundations, the following building materials would be delivered to the Mesquite Communication Site: wall construction materials such as reinforcing steel, aggregate, cement, water, and concrete masonry units. This activity is anticipated to require six round trips by a 2-3 axle flatbed truck or a 4-wheel drive pickup truck with a flat-bed trailer, over a 2-week period. Four personnel would be involved in this portion of the project.

Roofing materials would be delivered to the proposed Mesquite Communication Site upon the completion of structure wall building. This activity would require approximately three round trips by a 2-4 axle flatbed truck or a 4-wheel drive pickup truck with a flat-bed trailer, over a 2-week period, and would include the use of four personnel. Once the roof has been completed on the proposed buildings, the communications site tower components and a 2-4 axle heavy crane would be delivered to the proposed communication site.

Tower components would be delivered via tractor trailers. A total of 100 round-trips are proposed for the delivery of the tower and assembly equipment. After the installation of the communications tower, one 1,000-gallon diesel tank and one 500-kilowatt backup generator would be delivered and installed at the proposed Mesquite Communication Site. Approximately seven round trips using 2-axle flatbed trucks or a 4-wheel drive pickup truck with a flat-bed trailer are anticipated for delivery of this equipment. Initial diesel delivery would require approximately one round trip by a 3-axle, 2000-gallon diesel truck and would include the use of two personnel over a one day period.

The final construction activity at the proposed Mesquite Communication Site would be the construction of the primary access road gate and installation of a standard 2-inch width mesh chain-link fence around the entire communications site facility. Seven roundtrips by a 2-4-axle flatbed truck or a 4-wheel drive pickup truck with a flat-bed trailer to deliver materials are proposed. Support equipment would include light pickup trucks, a trailer-mounted air compressor, a concrete mixer, and miscellaneous small equipment and hand tools. Five personnel would complete this activity over a two-week time frame.

Use of construction equipment presents the potential for a fuel, engine oil, or lubricant release to the environment during construction activities. Common construction practices to minimize the potential release of hazardous substances to the environment would be employed. Prior to mobilization on the site, all equipment would be inspected to be sure it is operating correctly and free of leaks. Equipment would be inspected daily to ensure that there are no inappropriate discharges and/or malfunctions.

Once Phases I and II site construction activities are complete, initial tenant equipment occupancy activities would begin. These activities would include the installation of electronic equipment inside the buildings and microwave antennae on the tower. Each carrier would utilize the newly-created access-maintenance route to access the site with a 1-ton truck and/or crew cab pickup for this purpose. These vehicles are expected to hold all necessary materials for operations at the site. Each communication carrier is expected to require approximately 15-workdays to complete initial equipment installation. ICT anticipates approximately eight carriers. All carriers would be briefed regarding agency permit requirements and authorized uses, safety, and environmental awareness education.

Phase II building construction work and communication site tenant occupancy is estimated to take 12 months to complete. Upon completion of Phase II activities, Phase III post-construction mitigation and reclamation measures would be implemented.

Phase III work would include the following:

- Removal of all stakes, flagging, and construction fencing and
- Reclamation of the temporary two-track routes to the guy-wire anchor sites to parameters and characteristics associated with the original landscape; and
- Native cacti transplantation back into the authorized surface disturbance area by a qualified botanist, from the protected nursery holding location where they were stored previously (within the communication site footprint).

All vegetative transplants would be labeled with metal tags and their locations noted on appropriate maps to facilitate future monitoring efforts. All salvaged plant material would be replanted in a natural pattern to a depth of 18 inches or greater. A one-time watering approximately fifteen days after planting would occur to remove or minimize any air pockets and assure proper soil compaction. Care would be taken to properly compact all soil around roots of plants that are transplanted.

2.1.2 Schedule and Frequency of Site Monitoring

Monitoring of the proposed Mesquite Communication Site and associated access roads would be conducted for a period determined by the BLM. The first year would involve monitoring of initial construction as well as a biannual monitoring effort; with annual monitoring prescribed thereafter for the project. Monitoring reports would be submitted to the BLM. Inspections of project roads would also be conducted periodically, especially following major storm events.

An important goal of the reclamation effort would be to ensure the hydrologic flow in the two washes affected by road construction activity was restored to pre-construction conditions, following initial road installation. Consequently, the prescribed biannual monitoring effort would occur once near the end of winter and once during the early fall season, to gauge the effectiveness of project reclamation efforts in ensuring unaltered hydrologic conditions.

Monitoring Methods

Monitoring surveys would be conducted by qualified personnel along the access road and in the area of construction activities. Evaluations of road conditions and reclamation success would address all general and specific reclamation activities.

At each location, surveyors would record detailed information on the following areas:

- Road conditions in conformance with engineering specifications;
- Integrity of energy dissipating features;

- Erosion or atypical hydrological flow;
- New surface disturbances;
- Survival and relative health of transplanted cacti and re-establishing native flora;
- Colonization of invasive/non-native floral species; and
- Wildlife use of reclaimed areas and any incidence of common raven nesting.

Operations Maintenance and Access

In its operational phase, the facility would require post-construction maintenance and tenant access across public lands. Should access road maintenance needs arise, ICT would request a site visit with BLM to discuss specific maintenance needs and plans for work completion. The existing road would be used on a periodic basis by a 2,500-gallon 2-axle diesel truck to routinely re-supply fuel and perform minor maintenance of the generators at the site.

Each communication carrier is anticipated to visit the communication site on a quarterly basis to maintain and check equipment. One round trip using a standard four-wheel drive pickup for each carrier is proposed. ICT anticipates approximately 6 carriers. Bi-annual/annual monitoring trips related to the Mesquite Communication Site would be conducted by an ICT biological contractor and would entail travel along the authorized vehicle access route utilizing privately owned vehicles.

All carriers and monitoring personnel would be briefed regarding agency permit requirements and authorized uses, safety, and environmental awareness education. No vehicle travel would be used if standing water is present or if there is water-flow within either wash streambed. Further vehicle travel would be temporarily suspended during the storm event and while the roadway was still wet. Vehicle travel would resume when such travel would not result in the need for additional road grading. If a road shoulder "berm" is created from any grading activity on public lands, it would be hand-raked and reclaimed to reflect the existing topography.

2.2 Location

The proposed Mesquite Communication Site would be located on BLM-administered public lands located south of the Mormon Mountains, approximately 19 air miles west northwest of Mesquite, Nevada. The legal coordinates for this proposed communications site facility are:

- Township 13 South, Range 68 East, Northwest-Southwest Quarter Section 6, Mount Diablo Base Meridian, Clark County, Nevada.

Preliminary geodetic coordinates for the proposed guyed communications tower are latitude: 36°49' 53" (NAD 83); longitude: -114°26' 13" (NAD 83); and elevation +/- 3,049 feet above sea level.

2.3 Federal Monitoring Program

The duties/responsibilities of ICT for minimizing impacts to environmental resources associated with the Proposed Action would be addressed in a separate Mesquite Communication Site Monitoring Plan. The principal resources of concern include bighorn sheep (*Ovis canadensis nelsoni*) and desert tortoise (*Gopherus agassizi*).

2.3.1 Project Access Controls

ICT and its contractors are aware that the majority of the proposed vehicle access route to the Mesquite Communications Site is open to public use. The only exception being that portion of the route gated to preclude such use. The visiting public would be accommodated on this public land roadway during the Project, to ensure safe travel occurs. Construction vehicle speed would not exceed a 15-mile per hour limit while traveling on BLM-administered roads.

2.4 Alternatives to the Proposed Action

2.4.1 Above-ground Facility Power-line Alternative

This alternative would entail the same project features as the Proposed Action, but would utilize an 8-mile length wooden pole power-line to support the facility, instead of a sub-surface cable power-line. Poles would be installed at 300-foot intervals (144-150 poles), adjacent to the existing access road, with 15 sq. ft. per pole soil disturbance (2160-2250 sq. ft.) anticipated.

A 50 foot ROW (25 feet on each side of road centerline) and installation authorization would be requested by Overton Power District #5 in this instance. Similar to the Proposed Action, this ROW and installation authorization request would entail a separate permitting process following BLM-authorization of the Mesquite Communications Site. Poles would be installed with standard auguring equipment, with drill and blasting work necessitated in areas of hard ground.

The poles of this proposed power-line would be installed in a manner designed to allow cabling to be situated beneath the existing transmission line occurring roughly four miles west of I-15, near the Kern River gas pipeline. Standard power-line cabling and stretching equipment would be used to string the completed pole-line to a pole within the proposed fenced communications site at the base of the Mormon Mountains.

Directional boring beneath I-15 would be used to connect the constructed power-line to the existing main transmission line which parallels I-15. Construction time to complete power-line installation along the eight miles of access road leading to the proposed Mesquite Communications Site has been estimated at approximately three months.

2.4.2 Partial Above-ground Facility Power-line Alternative

This alternative would entail the same project features as the Proposed Action, but would utilize an above-ground wooden pole power-line for an approximate four-mile length distance west of I-15; after which a sub-surface power-line would be utilized. Poles would be installed at 300-foot intervals (72-75 poles), adjacent to the existing access road leading to the Mormon Mountains, with a 15 sq. ft per pole soil disturbance (1080-1125 sq. ft.) anticipated.

At approximately four miles west of I-15, proximal to the existing transmission line bisecting the affected alluvial fan, a four-mile length sub-surface power-line would be installed within the centerline of the existing access roadway. This sub-surface power-line cable would then connect to an above-ground pole at the proposed fenced communications site at the base of the Mormon Mountains. Construction time would be approximately five months.

Similar to the Proposed Action and the Above-ground Facility Power-line Alternative, this ROW and installation authorization request would entail a separate permitting process following BLM-authorization of the Mesquite Communications Site. Poles would be installed with standard auguring equipment. Drill and/or blasting work would be necessitated in areas of hard ground.

A 50 foot right of way (25 feet on each side of road centerline) would be requested by Overton Power District #5 for the above-ground portion of this proposed power-line and a 10-15 feet ROW would be requested for the sub-surface, existing road portion leading to the communications site. Poles would be installed with standard auguring equipment and sub-surface installation would involve standard trenching and cable burial work at a 48 inch-depth, with drill and blasting work necessitated in areas of hard ground.

2.4.3 No Action Alternative

Section 1502.14(d) of NEPA requires that the alternatives analysis in an Environmental Assessment include a No Action Alternative. Under the No-Action Alternative, project-related ROWs would not be created and ICT's proposed construction of the Mesquite Communications Site and subsequent operations would not take place.

2.4.4 Alternatives Considered But Dismissed

Moapa Peak

Communications site design and analysis work was previously nearing completion for a higher-elevation site near Moapa Peak in the adjacent Mormon Mountains. However, the encompassing Mormon Mountains Wilderness designation, adopted with the Lincoln County Conservation Recreation and Development Act of 2004, precluded this alternative.

Other Mormon Mountain Mesa Localities (East Mormon Mountains, Halfway Wash Hills, North Muddy Mountains, Black Ridge, Bunkerville Ridge) or Numerous Small Sites

Potential sites in the above vicinities were dismissed due to one or more of the following:

- Impracticable vehicle access or wilderness (Mormon Mountains) constraints;
- Inadequate line-of-sight reach or elevation height for all desired coverage areas;
- Mandated (FCC) broadcast protection distance buffer constraints; and
- Visual Resource Management (VRM) impact constraints/RMP direction.

Potential Mormon Mountain Mesa communication site localities located closer to the Interstate Highway 15 travel corridor (Figure 1) were evaluated for this facility. However, the FCC-mandated 105 km protection distance (PD) for Class C to Class C adjacent broadcast facilities established for Las Vegas, as well as the 249 km PD for Class C to Class C2 Co-channel buffer established for Lake Havasu and Williams in Arizona, precluded use of these sites (Figure 2). Wilderness constraints precluded use of potentially suitable localities to the north and west of the proposed facility location. Similarly, wilderness constraints precluded use of areas situated southwest of the Proposed Action locality.

Use of East Mormon Mountain and Halfway Wash vicinities (Figure 3) were dismissed as the line-of-sight capability mandated by the FCC progressively diminishes east of the locale specified in the Proposed Action. Thus, site placement in this area located easterly would not satisfy the needs of all broadcasters serviced by the proposed action's location and would not meet the multi-user facility objective of the Las Vegas RMP. Unacceptable impacts to a BLM Class III VRM area and to recreational use within a majority of the Mormon Mountain Wilderness would also result from such placement.

Facility location within the North Muddy Mountains, Black Ridge and Bunkerville Ridge areas were precluded as these facility locations would violate FCC-mandated broadcast protection buffers mentioned above.

The use of numerous small sites was dismissed due to VRM impact constraints and direction specified in the Las Vegas RMP (RW-2) to prevent the proliferation of scattered single sites.

3.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT

3.1 Regulatory Setting

Relevant environmental conditions for resources potentially affected by the Proposed Action and alternatives are discussed herein. In compliance with NEPA, Council on Environmental Quality (CEQ) regulations and 32 Code of Federal Regulations [CFR] 989, these descriptions are to target those considerations potentially subject to impacts.

The affected environment description is limited to the Mormon Mesa, Moapa Valley and Mesquite vicinities of Clark County. Resource descriptions focus on the following critical elements of the human environment: Areas of Critical Environmental Concern (ACECs), air and water quality, hazardous/solid wastes, as well as biological, cultural, visual and wilderness resources. Baseline conditions of the environmental components that could be affected by the Proposed Action or alternatives, if implemented, are discussed.

Those critical elements of the human environment not affected by the Proposed Action or alternatives, if implemented, are not discussed further. Native American religious concerns relative to the Proposed Action or alternatives, although not affected, are discussed in order to document that an attempt was made to determine if concerns existed.

Table 1. Critical Elements of the Human Environment.

Critical Element	Affected		Critical Element	Affected	
	Yes	No		Yes	No
ACECs	X		Noxious Weeds	X	
Air Quality	X		Threatened & Endangered Species	X	
Cultural Resources	X		Visual Resources	X	
Energy Development		X	Wastes Hazardous/Solid	X	
Environmental Justice		X	Water Quality	X	
Farm Lands		X	Wetlands and Riparian		X
Floodplains		X	Wild & Scenic Rivers		X
Migratory Birds	X		Wilderness	X	
N.A. Religious Concerns		X			

3.2 Air Quality

The proposed project is located in the Virgin River Valley, which is designated as a Class II-Prevention of Significant Deterioration area. In accordance with the Clean Air Act and the Las Vegas RMP (BLM 1998), a federal agency must not support actions within Class II attainment areas not meeting National Ambient Air Quality Standards (NAAQS). Any new operations in the attainment areas also must meet the Class II Prevention of Significant Deterioration (PSD) increment availability, which represents the available increment of each significant pollutant. The Class II PSD increment availability or the ambient air quality standards, whichever is less, limits increasing air quality impacts to not exceed the allowable levels for an attainment area.

3.3 Areas of Critical Environmental Concern (ACECs)

The Mormon Mesa Area of Critical Environmental Concern (ACEC) was designated in the Las Vegas RMP (BLM 1998). Boundaries for this ACEC were largely based on designated desert tortoise critical habitat boundaries. The RMP proposed that this ACEC be managed to guarantee a sufficient quality and quantity of habitat to meet recovery requirements established in the Desert Tortoise Recovery Plan (FWS 1994).

This ACEC designation was intended to protect functional corridors of habitat between blocks of habitat, thereby reducing fragmentation stresses and enhancing long term persistence of desert tortoise populations. The ACEC is also prescribed to be managed as a right-of-way avoidance area according to the RMP (BLM 1998; RW-1-g).

3.4 Biological Resources

Biological resources are divided into vegetation, wildlife, threatened and endangered species, species of concern and other sensitive species, and sensitive habitat. Biotic resource surveys, as well as an impact analysis, have been conducted relative to the Proposed Action. In 2000, the Moapa area was listed as one of Nevada's 66 highest priority conservation sites by the Nevada Natural Heritage Program (NHP 2000). This heritage program lists the Moapa area as having outstanding biological diversity significance with a good chance of being immediately threatened by severely destructive forces. It also states the loss or irretrievable degradation of populations would occur without immediate new or ongoing annual management.

3.4.1 Vegetation

The project vicinity is dominated by a Creosote-White Bursage Plant Community. It is principally dominated by creosote bush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*), with a sub-dominant Mixed Mojave Scrub Plant Community presence of Joshua tree (*Yucca breviflora*) and big galleta (*Pleuraphis rigida*).

Sub-dominant cacti include barrel cactus (*Ferocactus cylindraceus*), beavertail cactus (*Opuntia basilaris*), golden cholla (*Opuntia echinocarpa*), hedgehog cactus (*Echinocereus engelmannii*), nipple cactus (*Mammillaria tetrancistra*) and old man cactus (*Opuntia erinacea*).

Sub-dominant shrubs of the onsite plant community include Nevada mormon tea (*Ephedra nevadensis*), mountain joint fir (*Ephedra viridis*), indigo bush (*Psoralea fremontii*), shadscale (*Atriplex confertifolia*), spiny hopsage (*Grayia spinosa*), desert boxthorn (*Lycium andersonii*), range ratany (*Krameria erecta*) and cheesebush (*Hymenoclea salsola*).

Noxious Weeds and Invasive Non-Native Plants

The Federal Noxious Weed Act, Public Law 93-629 (7 U.S.C 2801 et seq.; 88 Stat. 2148), established a federal program to control the spread of noxious weeds. Executive Order 13112 issued February 3, 1999 further defines the responsibilities of federal agencies to prevent the introduction of invasive species and provide for their control.

Issuances of right-of-way grants require consideration of this public law and Executive Order. In order to reduce the economic, ecological, and human health impacts that invasive species cause, every effort to minimize the potential for introduction and spread of invasive and non-native plant species must be made.

3.4.2 Wildlife

Migratory Birds

Under the Migratory Bird Treaty Act of 1918 and subsequent amendments (16 U.S.C 703-711), it is unlawful to take, kill, or possess migratory birds. Executive Order 13186 issued January 11, 2001 further defines the responsibilities of Federal Agencies to protect migratory birds. A list of those protected birds can be found in 50 C.F.R. 10.13. With the exception of domestic pigeons (*Columbina passerina*), house sparrows (*Passer domesticus*), and European starlings (*Sturnus vulgaris*), all birds residing in or migrating through the project vicinity, are protected by this Act.

The Migratory Bird Act requires all construction activities be implemented in such a way as to avoid impacts to covered bird species, specifically during migratory flight and in the nesting season when such birds are most vulnerable. Example migratory birds that are known to nest within the Creosote-white Bursage Scrub Plant Community, when it includes Joshua trees and animal burrows, include burrowing owl (*Athene cunicularia*), black-throated sparrow (*Amphispiza bilineata*), common raven (*Corvus corax*), horned lark (*Eremophila alpestris*) and phainopepla (*Phainopepla nitens*). A considerable number of additional migratory bird species could also potentially use habitats occurring in the project vicinity for nesting purposes.

Suitable nesting habitats for most Creosote-white Bursage Scrub Plant Community-dwelling migratory birds are large thorny shrubs and cacti.

Suitable nesting habitat for the burrowing owl, which is a year-round resident of the project area, is abandoned coyote (*Canis latrans*), desert tortoise (*Gopherus agassizii*) and kit fox (*Vulpes macrotis*) burrows. Suitable nesting habitat for the common raven, which is a year-round resident of the project area, is generally cliff-faces and Joshua trees. Nesting habitat for this species is also often provided with the construction of human structures, transmission or broadcast towers and power pole-lines. Migratory bird impacts are a concern during spring-early summer nesting and fall migratory movement months.

3.4.3 Threatened and Endangered Species

Desert Tortoise

The Mojave population of the desert tortoise was listed as a threatened species in 1990 (FWS 1990). A recovery plan was completed and critical habitat was designated in 1994 (FWS 1994a, FWS 1994b). The proposed communication site would occur within the Mormon Mesa Area of Critical Environmental Concern (ACEC), formerly recommended as a Desert Wildlife Management Area (DWMA) of the Northeastern Mojave Desert Tortoise Recovery Unit (FWS 1994b). Threats to the desert tortoise in this DWMA have been specified as nutritional stress, an upper respiratory tract disease and common raven predation upon hatchling desert tortoises.

A biological resource survey was conducted by AMEC on 28 June 2005. A Class 2-3 desert tortoise scat was documented in the southern portion of the proposed communication site (Figure 6). A secondary April 2006 AMEC survey of the proposed 8.0 mile-length access road and potential power-line to the facility documented 8 desert tortoise carcasses and numerous inactive burrows. This high number of adult tortoise carcasses is suggestive of a recent population crash. No live desert tortoises were documented. Two suspected active burrows were mapped and the project vicinity was determined to be occupied desert tortoise habitat.

3.4.4 Species of Concern, Sensitive and Other Special Status Species

Banded gila monster (Heloderma suspectum cinctum). The Banded Gila Monster, a state protected reptile species and a FWS species of concern, is one of two species of venomous lizards found in North America. Little is known about habitat use within the Mojave Desert, but when detected, Banded Gila Monsters are often found near washes or intermittent streams where these animals have access to water or damp soil. Habitat suitability in the Proposed Action Area is considered low.

Beaver Dam breadroot (Pediomelom castoreum). Beaver Dam Breadroot, a FWS-designated Species of Concern, is a low growing perennial herb that blooms from early April to mid-May and sets fruit by June.

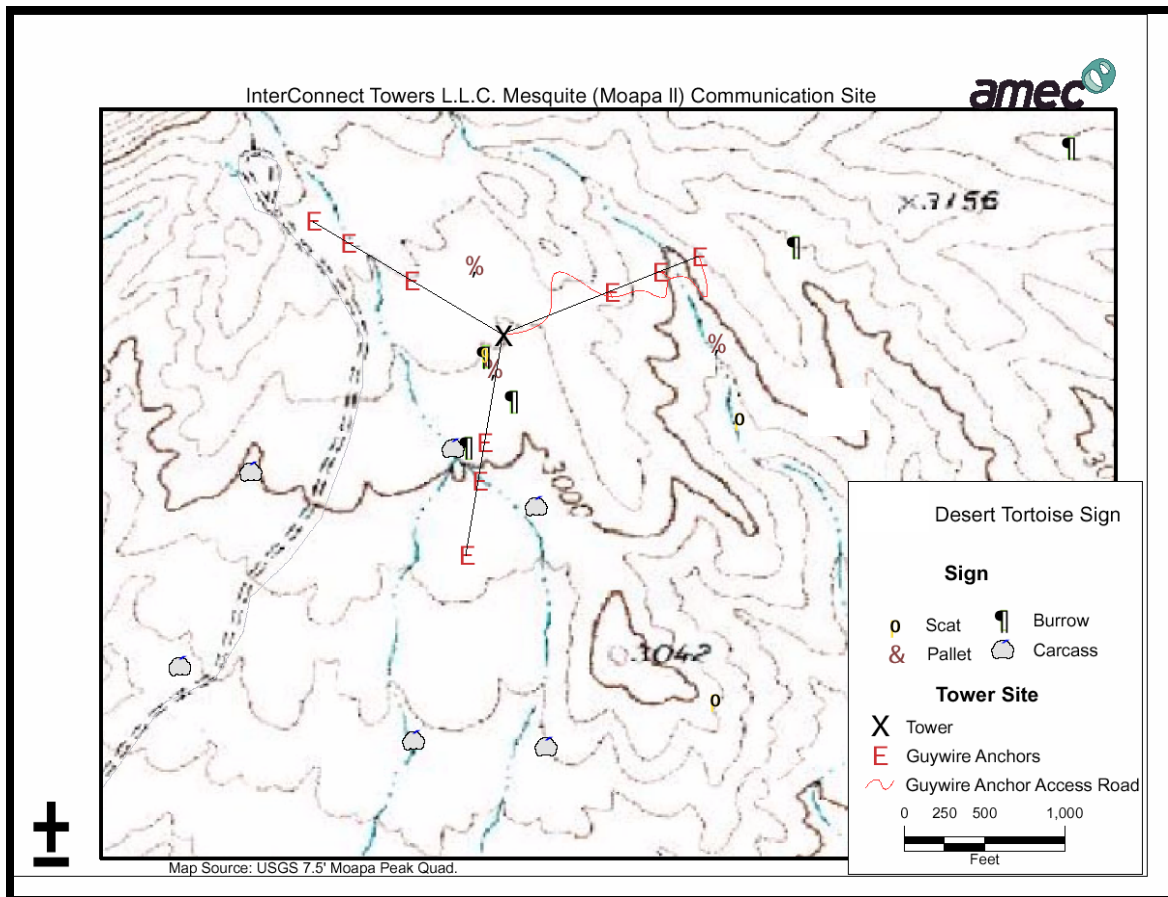


Figure 6. Approximate locations of desert tortoise (*Gopherus agassizii*) sign recorded by AMEC Earth & Environmental Biologists in the vicinity of the Proposed Mesquite Communications Tower (Township 13 South, Range 68 East, Northwest-Southwest Quarter Section 6, Mount Diablo Base Meridian, Clark County, Nevada). Additional surveys in April, 2006 documented desert tortoise sign along the entire proposed 8.0 mile-length access road from Interstate 15 as well.

Beaver Dam Breadroot grows in open sandy soils or sandy-clay soils in Creosote Bush Scrub. The species occurs from San Bernardino County, California through Clark County, Nevada to a narrow portion of Mohave County, Arizona. Habitat suitability in the Proposed Action Area is considered low.

Rosy two-tone penstemon (*Penstemon bicolor ssp. roseus*). Rosy Two-tone Penstemon, a FWS species of concern, is a short-lived perennial that occurs widely in Clark and Nye counties, Nevada and across the border into Arizona. Habitat suitability in the Proposed Action Area is considered low.

Chuckwalla (*Sauromalus obesus*). This large lizard is considered rare and is protected by the Nevada Department of Wildlife (NDOW). It has also been designated a Sensitive Species by the BLM in Nevada. Chuckwalla habitat in the Project Area would consist of rocky outcrops and heavily bouldered terrain, such as that occurring upslope from the Proposed Action Area.

Nelson's bighorn sheep (*Ovis canadensis nelsoni*). This large mammal occupies mountainous slopes throughout the Mojave Desert and is Nevada's State Mammal. The species was documented to use the slopes above the Proposed Action Area in early 2005. This portion of the Mormon Mountains is considered wintering range for the species.

3.5 Cultural Resources

Section 106 of the National Historic Preservation Act of 1966 requires that federal agencies take into account the effect of their undertakings on historic properties. A field survey and records search for the area of the Proposed Action was completed by ASM Affiliates in November 2005. A secondary field survey was conducted along the length of the 8.0 mile-length road accessing the Proposed Mesquite Communications Site, in April 2006.

Field Methods and Survey

ASM Archaeologists intensively surveyed the 40-acre triangular parcel in 2005. The central antenna station marked the starting and ending point for each transect within the parcel. The proposed new roads, diesel fuel tank and generator areas were also examined. A 30-foot width area on each side of the proposed access road was also surveyed by ASM in 2006.

According to a records search, the main access road is the only route to the Sheep Canyon Reservoir (from the Carp-Elgin Interchange exit). The Sheep Canyon Reservoir was commissioned by BLM in 1942 for the construction of a dam and reservoir. This implies that a segment of the main access road is historic in age (ASM 2005).

3.5.1 Prehistoric and Historic Resources

ASM Affiliates, Inc. conducted 140-acre surface inventory within the proposed site construction area and found no previously unrecorded prehistoric or historic cultural resources. Only a few modern activity sites, including an isolate rock ring, refuse scatter, and gravel mining areas, were identified along the access road. Three known archaeological sites lie near or adjacent to the access road. Two of these are within the area of the proposed action, an historic refuse deposit and a prehistoric lithic scatter. The third known historic site, a small dam and pipe system identified as Sheep Canyon Reservoir, lies west of the access road (ASM 2005).

3.5.2 Traditional Resources

The Southern Paiute comprises sixteen identifiable subgroups whose territory once extended across southern Utah and southern Nevada to the Colorado River in northern Arizona and southwest into California. Seven contemporary groups have indigenous names or approximations thereof: from west to east, these are Pahrnagat, Moapa, Shivwits, Uinkaret, Kaibab, Kaiparowits, and Antarianunts. Others are given non-native designations, some named after key cities or landforms within their territories: Las Vegas, Beaver, Cedar, Gunlock, Panaca, Panguitch, Saint George, and San Juan. The name of the last group, Chemehuevi, may derive from a Yuman term.

The Moapa subgroup owned a broad strip of desert country between the northern edge of Las Vegas territory, the southern limits of Pahrnagat and Panaca lands, and the western boundaries of Saint George and Shivwits territories. Moapa lands extended east to the Virgin Mountains and west to the Sheep Range in Las Vegas Valley.

Much of the low, rugged mountain country throughout this district was of little use except for occasional hunting, and most major settlements and activities centered along the more productive Muddy and Virgin River corridors. Like other Southern Paiutes, the Moapa Group probably lacked band organization and true land ownership. The only stable social and political unit was probably the patrilineal nuclear family. The family patriarch was not always the oldest but certainly the most powerful and most influential male (ASM 2005).

Southern Paiute Religious Concerns

Two of the 14 contacted tribes have responded to the BLM's request for information. A representative from the Chemehuevi Indian Tribe said that the tribe tends to defer to local tribes on most projects like this one; however, he said that the tribe likes to be kept informed, especially if burials, basketry, pottery, or clothing articles are found or are anticipated to be impacted. A representative from the Paiute Tribe of Utah said that, if Native American cultural sites, including archaeological sites, were not disturbed, the tribe had no further concerns.

3.6 Visual Resources

The BLM's Las Vegas Field Office currently manages the landscape where the Proposed Action would occur as VRM Class III "for partial retention of the existing character of the landscape". In VRM Class III areas, authorized actions "may alter the existing landscape, but not to the extent that they attract or focus attention of the casual viewer" (BLM 1998; VS-1-b). The adjacent Mormon Mountains Wilderness has been designated VRM Class I "to retain the landscape's existing character". In VRM Class I areas, authorized actions "may not modify existing landscapes or attract the attention of casual viewers" (BLM 1998; VS-1-a).

Vegetation onsite and along the access road includes species common to the Creosote Bush Scrub and Mixed Mojave Scrub Plant Communities (Holland 1986) such as creosote bush, white bursage, cholla cactus, mormon tea, turpentine broom, joshua tree and big galleta. This vegetation provides a seamless texture between where the Proposed Action would occur and the surrounding landscape. This landscape is visible from both I-15 and from Moapa Peak, within the designated Mormon Mountain Wilderness.

These sites also afford views of each other; a high-tension power line that runs roughly parallel to I-15; a secondary lattice-tower transmission line and wooden telephone pole line located roughly halfway (middle-ground) between the highway and Mormon Mountain also running parallel with the highway; as well as a small number of roads. The power-lines and telephone pole line are almost always viewed with land, instead of sky, behind them (BLM 2006).

Except for the access road to the Mormon Mountains Wilderness trailhead, some small abandoned livestock troughs and a corral, there are no man-made features in the foreground at the site of the Proposed Action. In general, these visible features are in the background and create a minor presence in an overwhelmingly natural viewshed. The night sky at the proposed facility location is dark and star gazing is quite good. Although Las Vegas is not readily visible from the area, a distant glow of the city is apparent during the evening; as are the lights of the highway and several towns (BLM 2006).

BLM Visual Contrast Ratings were completed for both the I-15 and Moapa Peak viewing locations. These visual contrast rating worksheets and can be found in Appendix A.

3.7 Wastes, Hazardous/Solid

The region of influence for hazardous materials and hazardous/solid waste management encompasses the entire geographic area exposed to the possibility of a hazardous material release or hazardous/solid waste management issue associated with construction/operation activities. This includes the proposed communications site, as well as access road, footprints.

Aspects of hazardous material and hazardous/solid waste management relevant to the subject project include the proposed use of an above-ground diesel storage tank and the associated petroleum products used for the proposed facility's secondary power source.

The various oils and lubricants used in this secondary power source, as well as those associated with the operation of construction equipment to be used in the Proposed Action, are also considered potential hazardous waste. Human waste generated by onsite personnel during proposed communications site construction/operations is considered solid waste.

Use of mechanized equipment presents the potential for a fuel, engine oil or lubricant release to the environment. Proposed construction work and site operations poses hazardous/solid waste disposal and management needs. No hazardous waste is present in the proposed communication site vicinity currently. Restrooms and solid waste facilities are located at a considerable distance from the affected area.

3.8 Water Quality

The site contains several ephemeral washes, two of which are mapped as blue line streams by the United States Geological Survey (USGS). Several of the ephemeral watercourses on-site fit the hydrogeomorphic definition as presented in the *Federal Register, Issuance of Nationwide Permits; Notice* (Vol. 67, No. 10, January 15, 2002): "An ephemeral stream has flowing water only during and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow."

Field conditions did not appear to indicate that groundwater provides water for stream flow and, therefore, the watercourses are not considered to be "intermittent streams" according to the Corps' definition in the cited reference. Following rainfall events, the unnamed ephemeral watercourses flow south within the "Muddy Watershed", as defined on the United States Environmental Protection Agency (EPA) website (EPA 2004). Water reaching the Muddy River subsequently enters the Virgin River and Lake Mead on the Colorado River. The Colorado River flows south, crossing into Mexico and entering the ocean at the Sea of Cortez.

No wetlands occur on site. However, the system of dry wash tributaries draining this vicinity to the Colorado River is considered "Waters of the United States" (waters) according to the definitions given in the United States Army Corps of Engineers (USACE) Regulatory Program Regulations (Regulations) at Section 328.3 subsections (a)(3), (a)(5), (a)(7)(b)(c)(e), and Section 328.4 (c)(1)(2)(3) (see Attachment A-1).

Additional information provided in the "Supplementary information" section of the Regulations states that: "...it should be concluded that in the absence of wetlands the upstream limit of Corps jurisdiction also stops when the ordinary high water mark (OHWM) is no longer perceptible". As such, all on-site waters that display OHWM indicators are considered jurisdictional to the upreach points where the OHWMs are no longer perceptible.

Several watercourses on site exhibit OHWM indicators. Road construction across such washes sometimes requires Section 404 Clean Water Act consultation and/or permitting with the USACE.

3.9 Wilderness

The proposed communications facility would be located in proximity to a popular trailhead accessing the Jack's Pockets and Moapa Peak vicinity of the Mormon Mountains Wilderness (Figure 3). This wilderness was designated in the Lincoln County Conservation, Recreation and Development Act of 2004 and contains 157,938 acres of public land managed by the BLM.

The Mormon Mountains are separated from other mountain ranges by broad bajadas in all directions. Lower elevations are dominated by Lower Mojavean shrub-lands which phase into Blackbrush Zone shrub-lands and open woodlands of Joshua Tree. A Pygmy Conifer Zone occurs at the highest elevations. The highest point in the wilderness is Mormon Mountain at 7,414 feet above sea level. Moapa Peak, located north-northwest of the Proposed Action, is situated 6,470 feet above sea level and is a popular climbing area. Jack's Pockets, located along the southern edge of the wilderness, provides proximal camping opportunities.

BLM Manual 8560.19 direction for wilderness requires "when activities on adjacent lands are proposed, the specific impacts of those activities upon the wilderness area must be addressed in environmental assessments". However, "no buffer zones are created around wilderness areas to protect them from the influence of activities on adjacent land" (BLM Manual 8560.19). Further, simply because "non-wilderness activities can be seen or heard from within the wilderness does not, in itself, preclude such activities or uses up to the boundary of the wilderness area" (BLM 1983). Per this manual direction, impact mitigation from outside wilderness "must not be so restrictive as to preclude or seriously impede such activities".

4.0 ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION AND ALTERNATIVES

4.1 Introduction

This chapter assesses potential environmental consequences associated with direct, indirect, and cumulative effects of the Proposed Action and Alternatives.

4.2 Air Quality

Proposed Action

During construction, temporary and localized increases in ambient concentrations of NO_x, CO, SO₂, VOCs, and PM₁₀ would result from exhaust emissions of worker vehicles, heavy construction equipment, a diesel generator, other Project-related machinery and tools. Fugitive dust emissions related to access road construction and subsurface power-line installation would result from earthwork. For the duration of construction activities, disturbed and excavated soil surface areas would be stabilized through the use of wet suppression and gravelling techniques, as approved site-specifically by the BLM.

Both forms of emission would be expected to be short-term only, which would meet the NAAQS and not exceed allowable levels for this attainment area. Such emissions during construction and subsequently during project operations, would also meet Class II PSD increment availability for each pollutant of concern.

Above-ground Facility Power-line Alternative

Similar to the Proposed Action, temporary and localized increases in ambient concentrations of NO_x, CO, SO₂, VOCs, and PM₁₀ would result from exhaust emissions of worker vehicles, heavy construction equipment, a diesel generator, other Project-related machinery and tools.

Fugitive dust emissions resulting from power-line installation would be substantially less than the Proposed Action with above-ground pole-line construction, as excavation would be limited to pole installation every 300 feet along the 8-mile power-line. Fugitive dust emissions resulting from excavation and earthwork would be similar to the Proposed Action. Those dust emissions occurring during regular operations would be identical to the Proposed Action.

Emissions during construction and subsequently during project operations, would meet the NAAQS and Class II PSD increment availability of each pollutant of concern for this attainment area.

Partial Above-ground Facility Power-line Alternative

Similar to the Proposed Action and Above-ground Powerline Alternative, temporary and localized increases in ambient concentrations of NO_x, CO, SO₂, VOCs, and PM₁₀ would result from exhaust emissions of worker vehicles, heavy construction equipment, a diesel generator, other Project-related machinery and tools.

Fugitive dust emissions resulting from power-line installation would be intermediate between the Proposed Action and the Above-ground Power-line Alternative, as pole installation would occur every 300 feet along the 8-mile power-line and excavation/cable burial work would be necessitated in the second 4-mile stretch of the existing and constructed access roads. The subsurface power-line would connect to a pole at the proposed communications site.

Fugitive dust emissions resulting from excavation and earthwork would be similar to the Proposed Action and the Above-ground Power-line Alternative. Dust emissions during regular operations would be identical to the Proposed Action.

Emissions during construction and subsequently during project operations, would meet the NAAQS and Class II PSD increment availability of each pollutant of concern for this attainment area.

No Action

Under this alternative, no construction on Public Lands would occur at the Proposed Action site, resulting in no impacts to air quality. The stated needs for eight communication providers would not be met by the construction of a single tower and perhaps would not be met at all due to various site need/FFC buffer width protection limitations elsewhere. Air quality would remain unchanged from the environmental setting as described in Section 3.2.

4.3 Areas of Critical Environmental Concern (ACECs)

Proposed Action

An allowance for installation of a communications site in a right-of-way avoidance area prescribed in the current RMP will be authorized. Native plant communities are anticipated to be eliminated in 1.10 acres of the Mormon Mesa Area of Critical Environmental Concern (ACEC) as a result of the Proposed Action. Wildlife dependent upon associated habitats would be permanently displaced. Vegetation is also anticipated to be highly modified in an additional 0.55 acres of the ACEC as the result of temporary road construction, equipment staging and building activities related to the Proposed Action. Wildlife dependent upon associated habitats would be temporarily displaced.

Wildlife inhabiting habitats adjacent to the proposed access road would be at slightly elevated risk of vehicle-related injury and/or mortality during construction. Bighorn sheep habitat fragmentation would not be expected to occur with current facility placement. Common raven nest strata/perch availability would be increased to an unknown, but likely small, degree.

Above-ground Facility Power-line Alternative

In addition to the impacts specified for the Proposed Action, additional native plant community loss would occur in the immediate vicinity of installed power-line poles along the 8-mile length access road. Wildlife habitat loss and modification would also occur along the 8-mile length access road associated with power-line pole placement.

Wildlife dependent upon associated habitats would be temporarily displaced. However, common raven nest strata/perch availability would be increased considerably with this alternative when compared to the Proposed Action.

Wildlife inhabiting habitats adjacent to the proposed access road would be at a higher risk of vehicle-related injury and/or mortality during construction when compared with the Proposed Action. Post power-line installation impacts to local wildlife associated with enhanced common raven nest strata/perch availability would be incurred to a much higher degree than the Proposed Action.

Partial Above-ground Facility Power-line Alternative

Impacts to native plant communities/wildlife habitats, temporary displacement of dependent wildlife and vehicle injury/mortality risk to wildlife would be intermediate between the Proposed Action and the Above-ground Facility Power-line Alternative. Post power-line installation impacts to local wildlife associated with enhanced common raven nest strata/perch availability would be incurred, but would be less than the Above-ground Facility Power-line Alternative.

No Action

The allowance for installation of a communications site in a right-of-way avoidance area would not be authorized. Native plant communities would not be eliminated or modified in the Mormon Mesa Area of Critical Environmental Concern (ACEC) as a result of the Proposed Action. Wildlife dependent upon associated habitats would not be permanently displaced. The risk of vehicle-related wildlife injury and/or mortality would not be slightly increased, as equipment transport/travel and proposed facility construction would not occur.

The stated needs for eight communication providers would not be met by the construction of a single tower and perhaps would not be met at all due to various site need/FFC buffer width protection limitations elsewhere. ACEC conditions would remain unchanged from the environmental setting as described in Section 3.3.

4.4 Biological Resources

4.4.1 Noxious Weeds and Invasive Non-native Plants

Proposed Action

Native vegetation is anticipated to be eliminated in 1.10 acres and highly modified in 0.55 acres as the result of temporary road construction, equipment staging and building activities related to the Proposed Action. Noxious weeds/non-native plants could thus be introduced and habitat conducive to invasive non-native plant establishment would be created in this acreage.

Above-ground Facility Power-line Alternative

In addition to the impacts specified for the Proposed Action, native plant community loss would occur in the immediate vicinity of installed power-line poles along the 8-mile length access road. Surface disturbance of 15 sq. feet per pole (2160-2250 sq. ft.) in areas located adjacent to the existing and constructed access roads would be anticipated. As a result, noxious weeds and non-native plants could be introduced and habitat conducive to invasive non-native plant establishment would be created in the vicinity of power-line poles.

Partial Above-ground Facility Power-line Alternative

Non-native plant introduction potential and the creation of habitat conducive to invasive non-native plant establishment would be less than the Above-ground Facility Power-line Alternative.

No Action

Native plant communities would not be eliminated or modified and hence there would be no increased potential for noxious weed or non-native plant introduction. Creation of conditions conducive to non-native plant establishment in a subset of 1.65 acres would not occur.

The stated needs for eight communication providers would not be met by the construction of a single tower and perhaps would not be met at all due to various site need/FFC buffer width protection limitations elsewhere. Conditions for noxious weed and/or invasive non-native plant introduction would remain unchanged from the setting described in Section 3.4.1.

4.4.2 Migratory Birds

Proposed Action

Native plant communities providing habitat to nesting migratory birds are anticipated to be eliminated in 1.10 acres and highly modified in an additional 0.55 acres as a result of the Proposed Action. Nesting use would likely be displaced to neighboring plant communities. Construction during the migratory bird nesting season without pre-construction surveys and appropriate biological monitoring in place to avoid impacts could result in the injury/mortality of eggs and/or young birds in nests.

Nest strata/perch availability for the migratory bird, common raven, would be increased to an unknown, but likely small, degree. Nest strata/perch availability for other migratory birds would also be increased to an unknown, but likely small, degree.

Above-ground Facility Power-line Alternative

In addition to the impacts specified for the Proposed Action, migratory bird habitat loss would occur in the immediate vicinity of installed power-line poles along the 8-mile length access road. Nesting use, though already low in areas adjacent to the proposed access road where the power-line would be installed, would likely be displaced to neighboring plant communities.

Nest strata/perch availability for the migratory bird, common raven, would be increased considerably with this alternative when compared to the Proposed Action. The potential for impacts to nesting migratory birds, should construction occur during the migratory bird nesting season without pre-construction surveys and appropriate biological monitoring in place to avoid impacts, would be higher than that associated with the Proposed Action.

Partial Above-ground Facility Power-line Alternative

Impacts to migratory birds would be intermediate between the Proposed Action and the Above-ground Facility Power-line Alternative, as fewer power-line poles would be installed.

No Action

Native plant communities providing habitat to nesting migratory birds would not be eliminated, the proposed facility would not be constructed. Nesting use would not be displaced in the proposed Project Area the potential for injury/mortality of eggs and/or young birds in nests would not be generated. Nest strata/perch availability for the migratory birds, including the common raven, would not be increased.

The stated needs for eight communication providers would not be met by the construction of a single tower. These needs perhaps would not be met at all due to various site need/FFC buffer width protection limitations elsewhere. Conditions for migratory bird use would remain unchanged from the environmental setting described in Section 3.4.2.

4.4.3 Threatened and Endangered Species

Proposed Action

Habitat for the threatened desert tortoise would be eliminated in approximately 1.10 acres of habitat designated critical to the recovery of the species. An additional 0.55 acres of habitat would be modified to a likely unsuitable condition for an unknown time period, as a result of the Proposed Action. No habitat loss would occur as a result of sub-surface power-line installation, as the proposed power-line would be situated within an existing road accessing the site.

Use of heavy equipment operation and other surface disturbances associated with the Proposed Action also have the potential for incidental take of adult/young Desert Tortoises through crushing within and outside of burrows. The desert tortoise could also be affected adversely along the eight-mile length access road, as a result of injury/mortality associated with equipment transport and vehicle use on the proposed access route. Periodic human visitation related to site operations and maintenance would minimally add to these impacts. The construction of a communications site tower and facilities could also provide nesting strata and shading opportunities for common ravens-a known predator of young desert tortoises. Removal of inactive common raven nests from the facility could reduce the severity of this impact.

Any introduction of noxious weeds or non-native plants associated with the Proposed Action could also be detrimental to the desert tortoise as such plants compete with/displace more nutritional native plants. Some invasive, non-native plants can also alter natural wildfire regimes by increasing ladder fuel loads, thus influencing wildfire severity/periodicity. Wildfire both harms desert tortoise habitat and results in mortality of the species above-ground and within burrows.

Any creation of potential wildfire sources within the area as a result of proposed structure attraction could add to a general threat of wildfire ignition and/or spread in habitats occupied by the desert tortoise.

Above-ground Facility Power-line Alternative

Impacts of proposed communications site construction to the desert tortoise would be similar to the Proposed Action, but a higher degree of surface disturbance, native vegetation removal and substantial common raven nest-site/perching provisioning along the proposed access road would occur as a result of power-line pole installation.

Such a power-line would necessitate the installation of approximately 144-150 poles along the eight-mile length access route to the proposed communications site. Surface disturbance of 15 sq. feet per pole (2160-2250 sq. ft.) in areas located adjacent to the existing and constructed access roads would be anticipated. A high potential for noxious weed and non-native plant introduction in such disturbed soil areas would result. Potential nest and perch-site provisioning of Common Ravens across a substantial length of an area designated as critical habitat for the desert tortoise would also be anticipated with this alternative.

Partial Above-ground Facility Power-line Alternative

Impacts of proposed communications site construction to the desert tortoise and designated critical habitat for the species would be intermediate between the Proposed Action and the Above-ground Facility Power-line Alternative. Fewer power-line poles associated with a partial above-ground power-line would result in both less habitat disturbance and less common raven provisioning. The potential for noxious weed and non-native plant introduction in a critical habitat for the desert tortoise would also be reduced compared to the Above-ground Facility Power-line Alternative, but would be higher than that associated with the Proposed Action.

No Action

Habitat for the threatened desert tortoise would not be eliminated or modified in an area designated as critical to species recovery. There would be no increased potential for harm of desert tortoises associated with the use of heavy equipment operation and other surface disturbances. The risk of adverse impacts to the desert tortoise along an identified eight-mile length access road through critical habitat for the species would not be increased. Additional nesting strata and shading opportunities for common ravens, a known desert tortoise predator, would not be provided. The potential for introduction of noxious weeds or non-native plants which could compete with more nutritious desert tortoise forage would not be increased; nor would the potential for increased wildfire periodicity be posed.

The stated needs for eight communication providers would not be met by the construction of a single tower. These needs perhaps would not be met at all due to various site need/FFC buffer width protection limitations elsewhere. Conditions for desert tortoise use would remain unchanged from the environmental setting described in Section 3.4.3.

4.4.4 Species of Concern, Sensitive Species and Other Special Status Species

Proposed Action

Surface disturbance that could potentially impact two special status plants that occur primarily in sandy wash soils is associated with the Proposed Action's road construction activities. Particularly if monitoring of construction operations by qualified biological personnel during seasons where such species might be encountered does not occur. However, neither of these plants has been recorded in the vicinity of the Proposed Action and habitat suitability in the vicinity of washes crossed by proposed roads is considered low.

A slight potential for crushing impacts to the special status species, Gila Monster and Chuckwalla, also exists with vehicle travel and heavy machinery operation associated with the Proposed Action. Both species would be subject to potential vehicle use crushing impacts in washes crossed by the proposed permanent and temporary access roads, if such operations occur during active seasons of use by these species (March through October), and monitoring of construction operations by qualified biological personnel does not occur.

Bighorn sheep could similarly be impacted by proposed operations in the vicinity of communications tower/facility, should these operations separate lambs from ewes during the respective season or should the proposed action pose animal entrapment/poisoning situations. Specifically, this potential exists if construction personnel are not informed of the possibility of encountering the species or monitoring of construction operations by qualified biological personnel does not occur.

Displacement of wintering use by the species and/or fragmentation of occupied habitat would not be expected to occur at the proposed facility location, due to its proposed placement down-slope from areas commonly occupied by the species, in areas lacking water, existing sheep travel trails or recently used daybed areas. Placement of a communications site tower could pose a navigation avoidance feature for the Nevada Department of Wildlife during their species-monitoring over-flights of the vicinity, but would not affect the capability to conduct such operations.

Above-ground Facility Power-line Alternative

Impacts to special status species would be similar to that posed by the Proposed Action.

Partial Above-ground Facility Power-line Alternative

Impacts to special status species would be similar to that posed by the Proposed Action.

No Action

There would be no increased potential for harm of special status species with the use of vehicles, heavy equipment operation and other surface disturbances.

The stated needs for eight communication providers would not be met by the construction of a single tower. These needs perhaps would not be met at all due to various site need/FFC buffer width protection limitations elsewhere. Conditions for special status species would remain unchanged from the environmental setting described in Section 3.4.4.

4.5 Cultural Resources

Proposed Action

ASM Affiliates completed a Cultural Resources Inventory for the proposed action in November 2005. The results of their report are discussed in Section 3.5.

Considering the basic geologic and depositional context of land surfaces in the project area, there is little to no potential for buried resources to be exposed and impacted during construction associated with the Proposed Action. The natural environment in the area is not particularly suited to repeat or long-term prehistoric or historic habitation, as it does not offer any major subsistence resources or raw materials that might sustain extended occupations.

Further, Native American consultation indicates that in the absence of archaeological sites, the Proposed Action is of no of particular concern and the area is not a known traditional cultural property. The potentially affected landscape is not particularly suited to repeat or long-term prehistoric or historic habitation, and does not contain (or likely had in the archaeological past) any subsistence resources or raw materials that would have been attractive for temporary human use. While it is possible that some prehistoric and historic cultural resources remain within the area of the Proposed Action, any present would likely be isolate artifacts or features.

Southern Paiute Religious Concerns

Two of the 14 contacted tribes responded to the BLM's request for information. A representative from the Chemehuevi Indian Tribe said that the tribe tends to defer to local tribes on most projects like this one; however, he said that the tribe likes to be kept informed, especially if burials, basketry, pottery, or clothing articles are found.

A representative from the Paiute Tribe of Utah said that, if Native American cultural sites, including archaeological sites, were not disturbed, the tribe had no further concerns. Therefore no impacts to Southern Paiute Religious Concerns are anticipated.

Above-ground Facility Power-line Alternative

There would be a slightly higher potential for buried resources to be exposed and impacted during construction associated with the Above-ground Power-line Alternative. The one lithic scatter site recorded in the vicinity is located along the existing access road. Otherwise, similar to the Proposed Action, impacts to cultural resources and Southern Paiute Religious Concerns would not be expected with this alternative.

Partial Above-ground Facility Power-line Alternative

The potential for buried resources to be exposed and impacted during construction associated with the Partial Above-ground Power-line Alternative is considered less than that associated with the Above-ground Power-line Alternative, but more than that associated with the Proposed Action. Otherwise, similar to the Proposed Action, impacts to cultural resources and Southern Paiute Religious Concerns would not be expected with this alternative.

No-Action Alternative

Under this alternative, no construction on Public Lands would occur at the Proposed Action site, resulting in no impacts to cultural resources or Native American religious concerns. The stated needs for eight communication providers would not be met by the construction of a single tower and perhaps would not be met at all due to various site need/FFC buffer width protection limitations elsewhere. Cultural resources and Native American religious concerns would remain unchanged from the environmental setting as described in Section 3.5.

4.6 Visual Resources

Proposed Action

The visual impacts from constructing and operating the communication site would depend on the degree of change to the visual resources and the viewers' response to that change. Impacts on visual resources during project construction would include the following:

A) Fugitive dust generation: Dust would be generated by earth-moving activities and construction equipment/broadcast tenant vehicles. Fugitive dust, when emitted in sufficient quantities and if adverse weather conditions persist, would impair or degrade existing views. However, this impact would be short-term and would subside when the inclement weather did.

B) Construction equipment presence: Depending on the viewers' values, interests and expectations, the presence of construction equipment and its associated activities could detract from current views experienced by visitors at specific times. These impacts would be temporary only, and would end when construction equipment is removed from the site.

C) Establishment of the Tower: An unavoidable long-term impact in a Class III VRM area that would result from implementation of the proposed action would be a change in the appearance of the project site viewshed. The addition of a 2000-foot height communication tower would change overall visual resources in this viewshed.

From I-15, this visual impact would be muted somewhat against Moapa Peak and the south-facing slope of the Mormon Mountains, due to terrain backdrop, the narrow width of the tower and eight miles of viewing distance. An example of this muted visual effect from a highway viewing perspective associated with a mountainous backdrop is presented by the nearby 1400-foot height communications tower at California Ridge, Nevada. During the day, this tower is almost imperceptible. At night, the tower's red strobe lights are invisible unless one looks for them, but do not otherwise attract one's attention. As such, the proposed tower at Mormon Mesa with similar features is not anticipated to attract or focus the attention of the casual viewer from the highway.

As visitors drive up the existing access road at Mormon Mesa, the primary visual direction is focused north to north-westerly and to various dips/curves in the road, rather than north-easterly to the sky in the direction of the proposed tower. With proximity to the base of Moapa Peak, the proposed tower would become more visually apparent. But even in this proximity, the proposed tower is not expected to focus the attention of the casual viewer. Here, the unusual rock formations, canyons and Joshua tree bajadas of Moapa Peak draw more attention than presence of a narrow-width tower against the sky.

When directly adjacent to the gated facility access road, before turning northwesterly in the direction of the wilderness trailhead, the tower and facility would certainly be visible. Here, for a short duration while driving, the tower would be a prominent feature against the sky. The fenced facility would be apparent but not a dominant feature on the landscape, if painted an appropriate earth-color and with proposed "vertical mulching" in place. Once past the proposed gated facility access road driving up/down-slope, the viewshed would no longer contain this visual element.

From the perspective of entering the wilderness from the existing trailhead, the facility and tower would not likely draw the attention of the casual viewer, as one is looking primarily northward into the wilderness from this perspective. When exiting the wilderness and proceeding down-slope, as well from select areas within the wilderness, the proposed tower would likely be visible. Some suitable campsites in the southerly Jack's Pockets vicinity of the wilderness would include views of the proposed tower against the sky. However, night-sky viewing and stargazing are not anticipated to be impeded.

An appendix to this EA includes five Visual Contrast Rating Worksheets prepared in accordance with BLM protocols. Analyses conclude that impacts to views would occur as a result of the proposed action, but probably not to the extent that these impacts would attract or focus the attention of the casual viewer. Still, this change in visual character could be interpreted by some viewers as exceeding the threshold defined in the Las Vegas RMP.

From the majority of key observation points (KOPs) used in these analyses, the addition of the proposed tower would constitute a visual impact. However, this impact is not anticipated to unduly diminish the characteristic quality of the existing visual landscape.

Moapa Peak Key Observation Point

The Moapa Peak KOP is located two miles north of the Proposed Action site, in the Mormon Mountain Wilderness. This prominent peak is located close to Las Vegas, has been written about in guide books and is believed to be visited more frequently than other parts of the Wilderness. A graphical representation of the view from Moapa Peak of a 2,000-foot tall lattice structure at the Proposed Action site was rendered using Google Earth Professional and Sketch-Up 5.0 software (Figure 7). The completed tower would constitute a moderate change in the character of the landscape from this KOP.

The highway corridor is clearly visible from this vantage-point, as is vehicle traffic. The cities of Moapa, Mesquite, Lake Mead, Overton and Logandale are also somewhat visible from this KOP. The intervening terrain from the site to I-15 is currently disrupted by several power-line facilities and a few dirt roads. Nonetheless, the Proposed Action would pose an unavoidable impact to the sense of solitude in this Moapa Peak portion of the Mormon Mountains Wilderness.

Impacts to views from Moapa Peak at night as a result of the Proposed Action would be expected to occur. Indirect ambient lighting from I-15 and the cities of Moapa, Mesquite, Lake Mead, Overton and Logandale also provide unavoidable impacts to solitude that affect visual resources in this area at night.

Southwestern and Southeastern Wilderness Key Observation Points

Another KOP used in this study was a location situated approximately one mile west of the existing access road in the southwestern portion of the Mormon Mountain Wilderness at an elevation of approximately 7,000 ft. From this KOP, the tower crosses the horizon, appearing taller than most of the landscape, but is muted against the mountain backdrop (Figures 8) when views are to the north. From the south, the view would include the tower against the sky. It is reasonable to assume that camping occurs in this portion of the Wilderness. Thus, an impact to visual

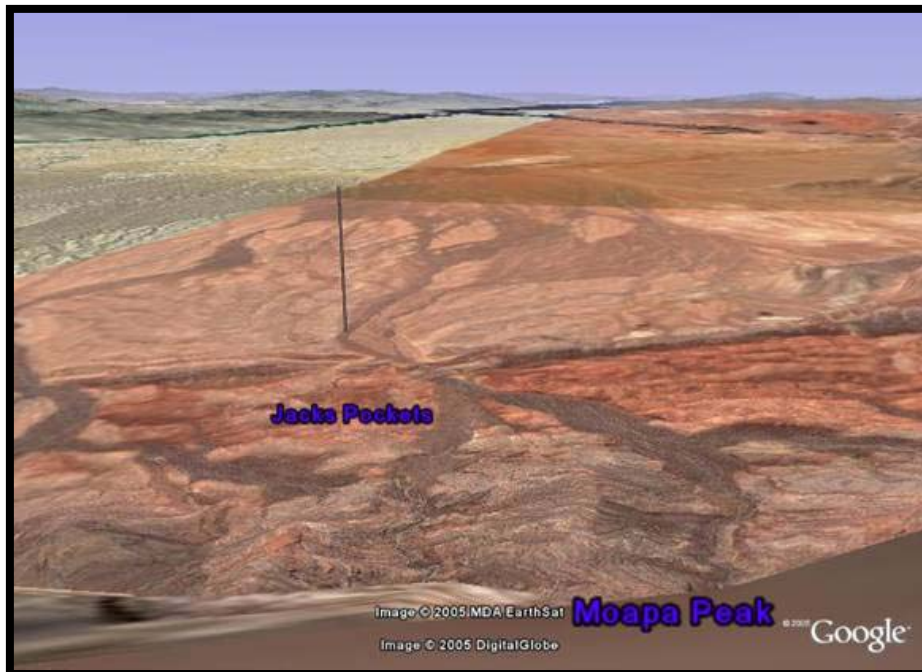


Figure 7. Graphic rendering of proposed Mesquite Communications Tower (Township 13 South; Range 68 East; Northwest, Southwest Section 6; Mount Diablo Base Meridian; Clark County, Nevada) viewed from Moapa Peak.



Figure 8: Graphic rendering of proposed Mesquite Communications Tower (Township 13 South; Range 68 East; Northwest, Southwest Section 6; Mount Diablo Base Meridian; Clark County, Nevada) viewed from southwest of the Mormon Mountain Wilderness Area.

Another KOP used in this study was a location situated approximately one mile east of the existing access road in the southeastern portion of the Mormon Mountain Wilderness Area at an elevation of approximately 7,000 ft. From this KOP, the tower also crosses the horizon, but this view is somewhat muted against the mountain backdrop (Figures 9) in views to the north. Looking south, the view would include the tower against the sky.



Figure 9. Graphic rendering of proposed Mesquite Communications Tower (Township 13 South; Range 68 East; Northwest, Southwest Section 6; Mount Diablo Base Meridian; Clark County, Nevada) viewed from southeast of the Mormon Mountain Wilderness Area at Interstate Highway 15 looking north.

The addition of FAA mandated safety lights (strobe during the day and red during the night) on the proposed tower would constitute a moderate contrast to the existing landscape character after dark. Thus, some effect to evening visual resources would be expected as a result of the Proposed Action. Indirect ambient lighting from I-15 (approximately 5 miles to the south) and the cities of Moapa, Mesquite, Lake Mead, Overton and Logandale currently also provide unavoidable impacts to solitude that somewhat affect visual resources in this area at night.

Mormon Mesa Area of Critical Environmental Concern Key Observation Points

The remaining three KOPs were conducted outside the Mormon Mountain Wilderness in the Mormon Mesa Area of Critical Environmental Concern (ACEC).

The Proposed Action would occur entirely within the Mormon Mesa ACEC, where visual resources are designated by the BLM as Class III. According to the results from most of the visual contrast studies used, implementation of the Proposed Action (i.e., construction and operation of a communication tower) is consistent with the BLM VRM Class III designation as it is not anticipated to attract or focus the attention of the casual viewer at this locale.

Above-ground Facility Power-line Alternative

Impacts of the Above-ground Facility Power-line Alternative on visual resources during project construction would be similar to the Proposed Action, albeit higher in scope and extent on the landscape, due to installation of an above-ground power-line rather than a subsurface power-line cable. A larger degree of equipment storage in the area would be anticipated with this alternative, when compared with the Proposed Action.

However, the duration of this construction activity is anticipated to last approximately only three months with this alternative; as opposed to the four-six months estimated for subsurface power-line installation associated with the Proposed Action. The addition of 144-150 poles associated with this eight-mile length above-ground power-line placement on the landscape would result in a substantially greater visual impact during daylight hours when compared to the Proposed Action. Some effect on evening visual resources would be expected as a result of this alternative.

This impact would be similar from all KOPS addressed in the Proposed Action analysis. This change in visual character may exceed the threshold defined in the Las Vegas RMP.

Partial Above-ground Facility Power-line Alternative

Impacts of the Partial Above-ground Facility Power-line Alternative on visual resources during project construction would be intermediary between the Proposed Action and the Above-ground Power-line Alternative. A somewhat larger degree of equipment storage in the area would be anticipated with this alternative, when compared with the Proposed Action. The duration of construction activity would be less than the four-six months estimated for the Proposed Action, but more than the three months estimated for the Above-ground Power-line Alternative.

The 72-75 poles associated with the four-mile length power-line would incrementally add to visual resource impacts in the area, but less so than the visual impacts associated with the Above-ground Power-line Alternative. The four-mile length pole-supported power-line would not be visible on the immediate approach to Moapa Peak, as would be the case with the Above-ground Power-line Alternative.

However, the 72-75 poles of the initial four-mile length of power-line would be visible during daylight hours from the Moapa Peak vantage-point within the Mormon Mountain Wilderness.

Some effect on evening visual resources would be expected as a result of this alternative, as with all alternatives other than no action. This visual resource impact would be similar from all KOPS referred to in the Proposed Action analysis. The change in visual character associated with this alternative may exceed the threshold defined in the Las Vegas RMP.

No-Action Alternative

Under this alternative, no construction on Public Lands would occur at the Proposed Action site, resulting in no impacts to Visual Resources.

The stated needs for eight communication providers would not be met by the construction of a single tower and perhaps would not be met at all due to various site need/FFC buffer width protection limitations elsewhere. Visual Resources would remain unchanged from the environmental setting as described in Section 3.6.

4.7 Wastes, Hazardous/Solid

Proposed Action

The proposed installation of a diesel generator and storage tank, as well as use of assorted heavy machinery and construction equipment associated with the Proposed Action, poses the potential for the release of hazardous material to the environment. Particularly if appropriate maintenance/operations associated with such materials are not clearly specified in the public land lease issued to the proponent and spill contingency plans are not identified.

Personnel work in the vicinity associated with the Proposed Action similarly poses both hazardous and solid wastes management issues, if specific measures are not identified to address these issues.

Above-ground Facility Power-line Alternative

Impacts associated with the management of hazardous/solid wastes would be similar to that posed by the Proposed Action.

Partial Above-ground Facility Power-line Alternative

Impacts associated with the management of hazardous/solid wastes would be similar to that posed by the Proposed Action.

No Action

The potential for the release of hazardous/solid waste material to the environment in this particular vicinity would not be increased.

The stated needs for eight communication providers would not be met by the construction of a single tower and perhaps would not be met at all due to various site need/FFC buffer width protection limitations elsewhere. Hazardous/solid waste issues would remain unchanged from the environmental setting described in Section 3.7.

4.8 Water Quality

Proposed Action

Several ephemeral washes, two of which are mapped as “blue-line” streams by the United States Geological Survey (USGS), are proposed for road crossings in the Proposed Action. Storm-water flow into the “Muddy River watershed” could be impeded and/or local water quality affected to a low degree at these locations by proposed road installation. Wash bank/bed modification by road installation earthwork/culvert installation may require USACE consultation and/or permitting. Monitoring of such roads at appropriate times during the year may be necessitated to ensure water quality impacts do not occur. Vehicle travel in wet conditions on proposed new roads within washes, as well as on other portions of the proposed access route proximal to area washes, could also affect local water quality to a low degree.

Above-ground Facility Power-line Alternative

Potential impacts to water quality would be similar to that posed by the Proposed Action.

Partial Above-ground Facility Power-line Alternative

Potential impacts to water quality would be similar to that posed by the Proposed Action.

No Action

No impacts to water quality would be generated.

The stated needs for eight communication providers would not be met by the construction of a single tower and perhaps would not be met at all due to various site need/FFC buffer width protection limitations elsewhere. Wash integrity on the upper, east-facing slope of Mormon Mountain Mesa, and associated water quality following storm-water flows would remain unchanged from the environmental setting described in Section 3.8.

4.9 Wilderness

Proposed Action

While the proposed communications site facility would be located specifically away from the wilderness trailhead, visitors desiring hiking access to a popular Moapa Peak climbing area and some of those seeking camping opportunities at nearby Jack's Pockets, would view the facility in driving to the trailhead. The proposed communications site tower would also be visible from some suitable campsites in the Jack's Pockets vicinity and from portions of Moapa Peak, within wilderness. However, the area's natural setting and outstanding opportunities for solitude would still be provided for, as there would still be few reminders of human activity from most viewpoints in the southern portion of this wilderness.

Above-ground Facility Power-line Alternative

Potential impacts to wilderness would be similar to that posed by the Proposed Action.

Partial Above-ground Facility Power-line Alternative

Potential impacts to wilderness would be similar to that posed by the Proposed Action.

No Action

No impacts to wilderness would be generated. The stated needs for eight communication providers would not be met by the construction of a single tower and perhaps would not be met at all due to various site need/FFC buffer width protection limitations elsewhere. Wilderness trailhead and recreational experiences would remain unchanged from the environmental setting described in Section 3.9.

5.0 PROPOSED MITIGATION

- 1) A Final Reclamation Plan for the proposed Mesquite Communication Site would be submitted to the BLM's Las Vegas Field Office for review and approval following completion of National Environmental Policy Act (NEPA) documentation for the Proposed Action.
- 2) An Operations and Maintenance Plan for the proposed Mesquite Communication Site would be submitted to the BLM's Las Vegas Field Office for review and approval following completion of National Environmental Policy Act (NEPA) documentation for the Proposed Action.

- 3) Following right-of-way grant issuance, the lessee would comply with all conditions contained in the authorized lease unless otherwise approved in writing by the Authorized Officer.
- 4) Non-compliance with issued conditions by lessee or any of his agents may at the option of the Authorized Officer result in the cancellation or suspension of the lease or adverse action against the lessee.
- 5) Following right-of-way grant issuance, the lessee would comply with applicable federal and state laws, as well as regulations issued there under, existing or hereafter enacted, affecting in any manner the construction, operation, maintenance or termination of the lease.
- 6) The lessee would confine all activities within specifically approved areas. Prior to initiating construction, ICT would schedule an on-site pre-construction meeting with personnel from the BLM's Las Vegas Field Office.
- 7) When all site development and reclamation actions have been completed, following both completion of site construction and termination of site use, a joint compliance check of the communication site would be made. The lessee and the Authorized Officers' representative would hold a joint inspection of the lease area to determine if compliance with lease terms and conditions has been completed. The lessee would perform at his own expense any required modifications or additional reclamation work needed to comply with the terms of this lease, as conclusively determined by the Authorized Officer.
- 8) The lessee would immediately bring to the attention of the Authorized Officer any archaeological resources or common raven (*Corvus corax*) nesting incidence encountered during operations. The integrity of such resources would be maintained pending subsequent investigation. The lessee would be responsible for nest removal from facilities during the inactive nesting season, following agency consultation.
- 9) Only water or gravel placement would be employed to control fugitive dust emissions, on a specific BLM-approval basis. Construction and maintenance vehicles would observe a 15-mile per hour speed limit on all unpaved roads in the Project Area to reduce fugitive dust emissions.
- 10) The lessee would designate a Field Contact Representative (FCR), who would be familiar with and responsible for overseeing compliance with the Decision Record and Conditions of Approval. This FCR would also be responsible for coordinating compliance issues with the BLM. An FCR would be on site during all project activities and would have the authority to halt all project activities that are in violation of the issued stipulations. The FCR would have a copy of all approval documents when work is being conducted on the site and may be a crew chief, a project manager, a consultant, or other employee of the lessee.

- 11) Upon locating a dead or injured tortoise, the lessee or his agent is to immediately notify the BLM's Las Vegas Field Office.
- 12) Personnel working on behalf of ICT and its contractors would be required to inspect for desert tortoises under vehicles prior to moving the vehicle. If a desert tortoise is found beneath a vehicle, it would not be moved until the desert tortoise had left of its own accord. All desert tortoise observations and their sign, if recognizable, are to be reported to the Resource Compliance Monitor and subsequently, to the BLM.
- 13) Prior to each authorized maintenance activity on public lands, all operators/support personnel would attend an Employee Environmental Awareness Program. Therein, all personnel would be briefed on bighorn sheep and desert tortoise awareness and avoidance measures, as well as all other BLM-issued stipulations. ICT would also issue a desert tortoise awareness card that each operator would carry with them at all times. This card would be signed and dated as proof of attendance at the applicable Employee Environmental Awareness Program. All resulting actions taken by ICT and its representatives regarding the desert tortoise on public lands are to be reported to the BLM.
- 14) If a desert tortoise is in imminent danger with immediate death or injury likely (such as from an approaching vehicle or equipment), and the desert tortoise has been given the opportunity to move but has withdrawn in its shell and is not moving, an approved authorized biologist or environmental monitor may capture the desert tortoise and place it in a clean cardboard box or similar container.
- 15) In accordance with Procedures for Endangered Species Act Compliance for the Mojave Desert Tortoise (FWS 1992), an authorized desert tortoise biologist should possess a bachelor's degree in biology, ecology, wildlife biology, herpetology, or closely related fields. The biologist must have demonstrated prior field experience using accepted resource agency techniques to survey for desert tortoises and tortoise sign. As a guideline, an authorized biologist should have 60 field days of experience. In addition, the biologist shall have the ability to recognize and accurately record survey results.
- 16) All burrows found during clearance surveys within areas proposed for disturbance, whether occupied or vacant, would be excavated by an authorized desert tortoise biologist and collapsed or blocked to prevent desert tortoise reentry. All burrows would be excavated with hand tools to allow removal of desert tortoises or desert tortoise eggs. All desert tortoise handling and excavations, including nests, would be conducted by an authorized desert tortoise biologist in accordance with Service-approved protocol (Desert Tortoise Council 1994, revised 1999).
- 17) All located desert tortoises and desert tortoise eggs would be relocated offsite 300 feet to 2 miles into adjacent undisturbed habitat. Tortoises found above ground would be placed under a bush in the shade.

A tortoise located in a burrow would be placed in an existing unoccupied burrow of the same size and orientation as the one from which it was taken. If a suitable natural burrow is unavailable or the occupancy status of the burrow is in question, an authorized desert tortoise biologist would construct one of the same size and orientation as the one from which it was removed using the protocol for burrow construction in Section B-5-f (Desert Tortoise Council 1994, revised 1999).

- 18) Any tortoise found within one hour of nightfall would be placed in a separate clean cardboard box and held in a cool, predator-free location. The box would be covered and kept upright at all times to minimize stress to the tortoise. Each box would be used only once and then disposed of properly. The tortoise would be released the next day in the same area from which it was collected and using the procedures described above. Each tortoise would be handled with new disposable latex gloves. After use, the gloves would be properly discarded and a fresh set used for each subsequent tortoise handling.

- 19) An authorized desert tortoise biologist would be onsite during the periods when tortoises are expected to be active to ensure construction activities are in compliance with an issued biological opinion and to ensure that any desert tortoises wandering on to the construction site via unfenced areas would not be inadvertently harmed.

The biologist would be responsible for : (a) enforcing a litter-control program; (b) ensuring that tortoise-proof fences are maintained where applicable; (c) ensuring that desert tortoise habitat disturbance is restricted to authorized areas; (d) ensuring that all equipment and materials were stored within the boundaries of previously disturbed areas; (e) ensuring that all vehicles associated with construction activities remain within the proposed construction zones; and (f) ensuring compliance with the terms and conditions of the issued biological opinion.

- 20) Desert tortoises would be handled according to Service-approved protocol (Desert Tortoise Council 1994, revised 1999). Desert tortoises would be treated in a manner to ensure that they do not overheat, exhibit signs of overheating (e.g., gaping, foaming at the mouth, etc.), or are placed in a situation where they can not maintain surface and core temperatures necessary to their well-being. Desert tortoises would be kept shaded at all times until was safe to release them.

No desert tortoise would be captured, moved, transported, or purposely caused to leave its burrow for whatever reason when the ambient temperature is above 95°F (35°C). Ambient air temperature would be measured in the shade, protected from the wind, at a height of 2 inches (5 cm) above the ground surface. No desert tortoise would be captured if the ambient air temperature is expected to exceed 95°F (35°C) before handling and relocation can be completed. If the ambient air temperature exceeds 95°F (35°C) during handling or processing, desert tortoises would be kept shaded in an environment that does not exceed 95°F (35°C), and the animals would not be released until ambient air temperature declines to below 95°F (35°C).

- 21) Project activities that might endanger a tortoise would cease if a tortoise is found on a project site. Project activities would resume after an authorized desert tortoise biologist removed the tortoise from danger of after the tortoise had moved to a safe area on its own volition.
- 22) Per established habitat compensation procedures for impacts to desert tortoise habitat on public lands, a fee would be paid by ICT at a rate of \$705.00 per acre of surface disturbance of 1.65 acres. The fee rate would be indexed for inflation based on the Bureau of Labor Statistics Consumer Price Index for All Urban Consumers (CPI-U) on January 31st of each year. Fees would be paid directly to the Desert Tortoise Public Lands Conservation Fund Number 730-9999-2315, administered by Clark County or any other administrator approved by the FWS. Fees assessed or collected for projects covered under existing biological opinions after March 1 of each year would be adjusted based on the CPI-U. The payment would be accompanied by the Section 7 Fee Payment Form completed by ICT for this project. Payments would be by certified check or money order payable to Clark County or other administrator named by the U.S. Fish and Wildlife Service and delivered to Clark County Habitat Conservation, c/o Dept. of Air Quality and Environmental Management, Clark County Government Center, 500 So. Grand Central Parkway, P.O. Box 558270, Las Vegas, NV 89155.
- 23) Prior to construction, project sites would be delineated with stakes or pin flagging to minimize surface disturbance associated with site and route construction. Plants would not be flagged. Flagging would be removed from construction areas prior to communication site completion.
- 24) Construction and maintenance of access routes would not result in alteration of existing drainage flow patterns. All road shoulder "berms" associated with route construction would be leveled to re-establish original drainage flow patterns.
- 25) The boundary of cultural resource sites located in the vicinity of the access route would be flagged and/or staked for Project work avoidance, as recommended in ASM Affiliates' Cultural Resource Inventory for the Proposed Mesquite Communications Site. Such demarcation would be situated to ensure no cultural resources were impacted during project activities.
- 26) ICT would comply with all applicable state and federal hazardous materials and waste management laws, along with all implementing regulations. These laws include the Comprehensive Environmental Response, Compensation, and Liability Act; the Resource Conservation and Recovery Act; the Clean Water Act; and regulations found in the Nevada Code of Regulations, Title 22.
- 27) Prior to mobilization of construction activities on site, the lessee would inspect all vehicles and equipment to ensure that it is operating correctly and free of leaks. Equipment would be inspected daily to make sure that there are no fluid discharges.

- 28) Appropriate spill containment material would be kept on site and personnel instructed on how to use this equipment. All fuels and other materials used would be contained and equipment/materials stored with appropriate containers. All hazardous materials associated with construction activities would be removed from the site upon completion of construction activities.
- 29) Releases of any hazardous material would be reported immediately to the Federal Interagency Communications Center (FICC) at (909) 383-5651. An initial report is to be faxed to the BLM's Authorized Officer within 24 hours of incident discovery at (702) 515-5023 (BLM). A comprehensive follow-up report would be submitted within 14 calendar days of an incident's discovery to the Authorized Officer.
- 30) Road installation across washes would be designed to not affect the wash banks or bed; nor utilize culverts.
- 31) Prior to mobilization of construction activities during the rainy season (July through September) a safety plan for working in the flash flood-prone desert washes occurring onsite would be formulated and submitted to the BLM for review and approval. Vehicle travel for operations and maintenance would not be allowed when standing water was present in access routes.
- 32) All cacti and yucca plant species to be impacted by the project would be salvaged and transplanted back into the right-of-way.

6.0 CUMULATIVE IMPACTS

Cumulative impacts result from the "incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over periods of time (Council on Environmental Quality 1978).

6.1 Proposed Action

Currently, one other project with the potential to contribute to cumulative impacts in northeastern Clark County has been identified. ICT proposes to construct another similar tower near Moapa, Nevada, 17.5 miles south-southwest of the Proposed Action analyzed in this document.

The proposed action and this second communications site project together would constitute a negligible but permanent cumulative impact to visual resources along the I-15 corridor in southern Nevada. Both projects would provide space for multiple antennae on the same tower structure, reducing the need for multiple tower sites to meet regional broadcasting needs.

Thus the need for additional communication sites in the region would be reduced, along with potential cumulative surface disturbance and visual resource impacts associated with building multiple communications sites with separate towers.

Mitigation and impact minimization measures proposed for both projects would reduce the potential for incidental take of the threatened desert tortoise, but the permanent loss of ± 1.65 acres of designated critical habitat would add to the cumulative loss of desert tortoise habitat in the Mojave Desert. Compensatory mitigation utilizing a fee structure designed to address desert tortoise recovery throughout the region would substantially alleviate the extent of this adverse cumulative impact.

6.2 Above-ground Facility Power-line Alternative

Similar to the Proposed Action, the Above-ground Power-line Alternative would constitute a negligible but permanent cumulative impact to visual resources along the I-15 corridor in southern Nevada. However, the degree of visual impact would be more substantial with this alternative compared to that associated with the Proposed Action. This alternative would also provide space for multiple antennae on the same structure. Thus the need for additional communication site installation to meet regional broadcasting needs would likely be reduced, along with associated surface disturbance and visual resource impacts associated with multiple facilities.

The proposed mitigation and minimization measures incorporated into this alternative would also reduce the potential for incidental take of the threatened desert tortoise. Considered together with the proposed Moapa Communications Site, the Proposed Action would add to the cumulative loss of desert tortoise habitat in the Mojave Desert. However, the loss of habitat designated as critical for the desert tortoise would be slightly more than that associated with the Proposed Action, adding to the cumulative loss of desert tortoise habitat in the Mojave Desert.

The installation of 144-150 power-line poles associated with this alternative would also add to the cumulative total of human structures providing perches and nest strata for a known desert tortoise predator: the common raven. Any provisioning of common ravens along the I-15 corridor in southern Nevada would add to the cumulative impact of human actions benefiting this bird species in a rapidly developing portion of the Mojave Desert.

6.3 Partial Above-ground Facility Power-line Alternative

The cumulative impact of this alternative would be intermediate between the Proposed Action and the Above-ground Facility Power-line Alternative.

Similar to the Proposed Action and the Above-ground Power-line Alternative, the Partial Above-ground Power-line Alternative would constitute a negligible but permanent cumulative impact to visual resources along the I-15 corridor in southern Nevada.

This alternative would also provide space for multiple antennae on the same structure. Thus the need for additional communication site installation to meet regional broadcasting needs would likely be reduced, along with associated surface disturbance and visual resource impacts associated with multiple facilities.

The proposed mitigation and minimization measures incorporated into this alternative would also reduce the potential for incidental take of the threatened desert tortoise. Considered together with the proposed Moapa Communications Site, the Proposed Action would add to the cumulative loss of desert tortoise habitat in the Mojave Desert. However, the loss of habitat designated as critical for the desert tortoise would be slightly more than that associated with the Proposed Action, but less than that associated with the Above-ground Facility Power-line Alternative.

The installation of 72-75 power-line poles associated with this alternative would also add to the cumulative total of human structures providing perches and nest strata for a known desert tortoise predator: the common raven. Any provisioning of common ravens along the I-15 corridor in southern Nevada would add to the cumulative impact of human actions benefiting this bird species in a rapidly developing portion of the Mojave Desert. However, this alternative, considered together with the proposed Moapa Communications Site, would result in less common raven provisioning than the Above-ground Facility Power-line Alternative.

6.4 No Action Alternative

Under this alternative, no construction on Public Lands would occur at the Proposed Action site, resulting in no generation of cumulative impacts. The stated needs for eight communication providers would not be met by the construction of a single tower and perhaps would not be met at all due to various site need/FFC buffer width protection limitations elsewhere.

7.0 LIST OF AGENCIES AND PERSONS CONSULTED

7.1 Agencies Consulted

U.S. Bureau of Land Management, Las Vegas Field Office

7.2 Persons/Private Groups Consulted

Mr. Everett Bartz, Bureau of Land Management, Las Vegas Field Office, Wilderness

Mr. Bob Bruno, Bureau of Land Management, Las Vegas Field Office, Recreation

Mr. David Fanning, Bureau of Land Management, Las Vegas Field Office, Minerals

Mr. Michael Johnson, Bureau of Land Management, Las Vegas Field Office, Planning

Ms. Christina Lund, Bureau of Land Management, Las Vegas Field Office, Vegetation
Mr. Stanton Rolf, Bureau of Land Management, Las Vegas Field Office, Archeologist
Ms. Carolyn Ronning, Bureau of Land Management, Las Vegas Field Office, Wildlife Biologist
Ms. Susanne Row, Bureau of Land Management, Las Vegas Field Office, Cultural Resources
Mr. Donn Siebert, Bureau of Land Management, Las Vegas Field Office, Wilderness Visual
Mr. James Sipple, Bureau of Land Management, Las Vegas Field Office, Wilderness Visual
Ms. Marilyn Sowa, Bureau of Land Management, Las Vegas Field Office, Realty
Mr. Allen Kirschner, College Creek Broadcasting, Inc., Engineer and Vice-President
Mr. Vincent Cox, InterConnect Towers L.L.C., Vice President

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Appendix A

Visual Contrast Rating

Appendix B

Correspondence